

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 723.—Vol. XIX.]

LONDON, SATURDAY, JUNE 30, 1849.

[PRICE 6D.]

MARK VALLEY MINING SHARES.
MESSRS. EWER & BECKINGSALE beg to announce that they have received instructions from the assignees of the estate of Mr. W. D. Brodie, to OFFER FOR SALE, at the White Hart Hotel, SALISBURY, on Monday, the 3d of July next, at Three o'clock in the afternoon, a
A LARGE NUMBER OF SHARES
in the **MARK VALLEY CONSOLIDATED TIN & COPPER MINING COMPANY.**
For particulars apply to Messrs. Cobb and Son, or to Mr. C. W. Squarey, solicitors, Salisbury.

VALUABLE MINE MATERIALS FOR SALE.
MR. PRYOR and MR. MAY will sell, by AUCTION, at **WHEEL BUCKETS MINE, near REDRUTH**, on Tuesday, the 3d July next, at Eleven o'clock in the forenoon, the following valuable
MINE MATERIALS:

- | | |
|--|---------------------------------|
| 1 60-inch STEAM-ENGINE, with two boilers, weighing about 34 tons | 1 8-foot 20-inch windbore |
| Balance-bob, capstan, shears, and capstan rope | 1 8-foot 12-inch ditto |
| A spare boiler, 34 tons | 1 6-foot 10-inch ditto |
| A very good crusher | 1 3-foot 18-inch matching piece |
| 10 9-foot 18-inch pumps | 1 17-inch ditto |
| 1 6-foot ditto | 1 4-foot 12-inch ditto |
| 16 9-foot 17-inch ditto | 1 18-inch H-piece |
| 2 6-foot 17-inch ditto | 1 9-inch ditto |
| 9 9-foot 13-inch ditto | 1 18-inch H-piece and door |
| 30 Fathoms of 7 and 8-inch pumps | 1 12-inch ditto |
| 2 11-foot 16-inch working pieces | 1 10-inch ditto |
| 1 12-foot 12-inch ditto | 1 9-foot 18-inch plunger-pole |
| 1 10-foot 10-inch ditto | 1 9-inch ditto |
| 1 10-foot 16-inch windbore | 1 18-inch plunger case |
| | 1 9-inch ditto |

70 fathoms of 13-inch oak and other rods, red plates, rod bolts, and flanch bolts, cast-iron staples and glands, iron bucket rods, brass chock seatings and valves, several horse whistles, kiddles, chains and ropes, smiths' bellows, vice, iron horse, smiths' and miners' tools, ladders, air-pipes, trans-irons, wood sheds, trams, buddles, lot of old timber, iron, &c., together with a great variety of other articles too numerous to mention.

The articles are in excellent condition, and will be found well worthy the attention of parties connected with mines.

The materials may be viewed on application to the agent, at the mine, of whom all further particulars may be obtained; or of the auctioneers, Mr. Pryor, Bell Cottage, near Redruth, or Mr. May, Paul's-terrace, Truro.

IMPORTANT IRON, COPPER, AND TIN-PLATE WORKS.
MESSRS. SHUTTLEWORTH & SONS have been favoured with instructions from trustees, under a mortgage deed, to SELL, by AUCTION, at the Auction Mart, in London, on Tuesday, July 13th, at Twelve, the valuable and important establishments of the Governor and Company of Copper Miners in England, in **CWM AVON**.

In the county of GLAMORGAN.—The establishment at Cwm Avon is of the most complete and finished character, and includes every power and engine essential for carrying on, in the most economical manner, and on a large scale, every branch of the IRON, TIN-PLATE, and COPPER TRADES.

The leases under which the property is held include several thousand acres of land, abounding in rich seams of superior bituminous coal, including all the veins of argillaceous iron ore of the lower measures, which supply the large iron-works of South Wales, and in addition the black-band iron ore, which is wrought at a very low price per ton.

Two collieries in the levels and pits now working afford almost an unlimited supply of cheap mineral, within an average of 5 miles of the shipping port. The establishment, which was erected at a cost of nearly half a million sterling, consists of the following separate works:—

IRON TRADE.—Seven blast furnaces complete, capable of producing from 850 to 900 tons of pig-iron per week, with coke ovens and refineries attached, three puddling and five well and bar mills of the best construction, which are capable of producing 3000 tons of finished bar or rail per month.

The **TIN-PLATE FORGES** and **MILLS** are capable of working up iron for finishing 1000 boxes of tin-plates per week, with chemical works attached, for the purpose of abstracting (during the conversion of wood into the necessary supply of charcoal for this branch of trade) the naphtha, acetic acid, and other products, and also for the supply of sulphuric and muriatic acids.

The **COPPER SMELTING-WORKS**, which are under one roof, and are capable of smelting about 500 tons of ore, equal to 50 tons of refined copper per week, and possess unusual convenience for the supply of water, and the cheap deposit of slag.

The **COPPER ROLLING MILL** is one of the largest in Wales, with hammers, rolls, &c., attached.

The **FIRE BRICK MILL** can turn out 100,000 bricks per week. In the centre of the works is a large enclosed deposit for storage of all goods, and also a line of workshops complete in every respect; with the necessary steam-engine, machinery, and tools for the supply of all kinds of patternmakers, joiners, sawyers, fitters, boiler-makers, smiths, and founders' work required for so large an establishment. The offices for conducting the business in the centre of the works are most complete. There is an excellent manager's house a short distance from the works, whilst detached, in convenient localities, are about 1000 neat four-roomed cottages, with sufficient houses of a better class for the respective agents and workmen, shops, and a large square fitted for the purpose of a market, and excellent stabling for upwards of 800 horses. The erections, works, and buildings, with the exception of two of the blast furnaces, are in the parish of Michaelstone, held by the company for an unexpired term of 90 years, and the control of the population connected with the works is thus beneficially under the managing director of the works. The whole of the works are connected by rail or tram roads with the collieries and the shipping port, which is distant only two and a half miles, and the South Wales Railway passes close to the premises.

The premises may be viewed by application to John Biddulph, Esq., Coed-parc House, adjoining the works, and particulars obtained at the general office of the establishment in Cwm Avon; or Messrs. J. C. and H. Freshfield, solicitors, New Bank-buildings; Messrs. Tilson, Squares, Clarke, and Morris, solicitors, Coleman-street; at the Auction Mart; and of Messrs. Shuttleworth and Sons, 28, Foultry.

TO IRONMASTERS, FOUNDERS, &c.
MR. W. D. STARLING is instructed to SELL, by PRIVATE CONTRACT, a QUANTITY OF OLD RAILS AND CHAIRS; also, several LOTS OF CONTRACTORS' PLANT.—Application to be made at his office, 13, Change-alley, London, June 14, 1849.

STEAM-ENGINES ON SALE.—No. 1.—A SECOND-HAND DOUBLE POWER CONDENSING MARINE ENGINE, with cast-iron frame and side beams; cylinder 30 inches diameter, 3 feet stroke; air-pump, lined with brass—no boiler; 47-horse power, with 7 lbs. pressure on the square inch, and suitable for pumping and winding in a colliery, lead mine, or to drive any kind of millwork.

No. 2.—A DOUBLE POWER CONDENSING MARINE ENGINE, quite new, but unfinished, with cast-iron frame and side beams; cylinder 48 inches diameter, 3 feet stroke; 91-horse power, with 7 lbs. pressure on the square inch—no boiler; and suitable for the same purposes as No. 1.

No. 3.—A DOUBLE POWER CONDENSING LAND BEAM WINDING ENGINE; cylinder 32 inches diameter, 4 feet stroke; hand gear, with button valves, parallel motion, fly-wheel, wagon boiler, with all its fittings; door, grate, head-plates, &c.; two large cast-iron bell cranks and pedestals, with strong wrought-iron connecting-rods, for pumping water from two lifts of pumps 100 yards deep, two rope wheels, suited for flat chains, apparatus to throw in and out of gear, pit-head pulleys, &c.; 28-horse power, with 7 lbs. pressure on the square inch, and suitable for the same purposes as No. 1.

No. 4.—A NEW DIRECT ACTION ENGINE, double power, suitable for a corn-mill, or winding in a coal or lead mine, with improved spring packing for piston, ditto ditto for nozzle valves; cylinder 16 inches diameter, 3 feet stroke, 28-horse power, with 35 lbs. pressure on the square inch—no boiler.

No. 5.—A DOUBLE POWER LAND BEAM ENGINE; cylinder 20 1/2 inches diameter, 4 feet stroke, slide valve, parallel motion—no boiler, and quite new; 55-horse power, with 35 lbs. pressure on the square inch, and suitable for the same purposes as No. 1.

No. 6.—A DOUBLE POWER BEAM WINDING ENGINE; cylinder 15 1/2 inches diameter, 3 feet stroke, with a cast-iron portable frame, slide valve, hand gear, parallel motion, flat-rope wheel, spur and pinion wheels for the same; 29-horse power, with 35 lbs. pressure on the square inch—no boiler, and suitable for the same purposes as No. 1.

No. 7.—A SECOND-HAND PUMPING ENGINE, with cylinder 48 inches diameter, 7 feet stroke in the house and the same in the pit, with air-pump, condenser, hand gear, clack, &c.; pumping three lifts of pumps 100 yards; working barrels 14 inches diameter—no boiler; 100-horse power, with 7 lbs. pressure on the square inch.

No. 8.—A NEW DIRECT ACTING DOUBLE POWER HIGH-PRESSURE STEAM ENGINE; cylinder 9 inches diameter, 2 feet stroke, slide valve, sliding parallel motion, with grate, door, boiler and fittings complete, with winding apparatus and pit-head and pulley, and was lately at work, for about four months, on a pit 100 yards deep; 10-horse power, with 35 lbs. pressure on the square inch.

THREE SECOND-HAND CYLINDRICAL BOILERS, little worse than new, 4 feet diameter, and 32 feet in length, with spherical ends, and now in thorough repair, and suitable for any of the above engines.

ONE PAIR of 90-horse power SECOND-HAND MARINE BOILERS, that have been working a pair of 40-horse power engines, and are now in thorough repair.

NEW BOILERS, of any shape, can be MADE at a short notice, to suit any of the above engines.

For further information apply to **EXTON & CO.** MOTTON FOUNDRY, near HOAGWELL, GLoucestershire.

EXTENSIVE IRON-WORKS FOR SALE, BY PRIVATE BARGAIN, THE BLAIR IRON-WORKS.

Belonging to the Ayrshire Iron Company, with the whole MINERAL FIELDS held by the said company, under favourable leases, including the MALLEABLE IRON-WORKS, immediately adjoining, so far as erected—all as particularly described in former advertisements.—There is a large STOCK of IRONSTONE on the ground, which may be had at a valuation.

For further particulars apply to Mr. Biggart, at the works; Mr. Watson, 33, and Mr. Brown, 35, St. Vincent-place, Glasgow; Messrs. McClelland and Mackenzie, accountants, there; Messrs. Gibson-Craig, Dalziel, and Brodie, W.S., Edinburgh; or Messrs. Montgomerie and Fleming, writers, Glasgow—the last being in possession of the title-deeds. Glasgow, June 20, 1849.

VALUABLE AND EXTENSIVE MINES OF COAL AND IRONSTONE.

TO BE LET, ON LEASE, on most advantageous terms, the COAL and IRONSTONE under a very large tract of land, in the parish of RUABON in the county of DENBIGH, adjoining the Shrewsbury and Chester Railway.

The proprietors of the ESTATES on which the Penkwy and Aberdlyn Iron-Works were formerly carried on, have made arrangements to LET BOTH PROPERTIES TOGETHER, which will give the lease of them facilities to carry on a lucrative business—very rarely to be met with.

The COALS and IRONSTONE on these ESTATES may be raised at very much less than an average cost, and the quantity proved in them (besides what are under a very large portion of one of them, in which there is no doubt they will be found) is estimated will supply iron-works with materials to make 400 tons of pig-iron weekly for upwards of 30 years, as well as 50,000 tons of the much and justly celebrated Yard and Wall Bench Coals per annum for sale, for the same period.

Printed particulars of the property, and lithographed plans of the estates, showing the minerals under them, with calculations as to the expense of making iron from them, as compared with that of manufacturing it in Staffordshire, may be had upon application at the office of the Mining Journal, 26, Fleet-street; and at J. Boydell's, 54, Threadneedle-street, London; and at Messrs. Longville and Williams, solicitors, Oswestry. Oswestry, June 18, 1849.

TO BE SOLD, BY PRIVATE TREATY, all the MINES of COAL and IRONSTONE, and other the MINERALS lying under an ESTATE situate in the hamlets of CHELL and THURFIELD, in the parish of WOLSTANTON, in the county of STAFFORD, called

TURNHURST.

Containing, by a recent admeasurement, 109 acres, statute measure, or thereabouts, with all usual rights of working, getting and taking the same. These mines are of very considerable value, and lie in the midst of a populous neighbourhood, within half a mile of Golden Hill, one mile from Tunstall, three from Burslem, five from Newcastle-under-Lyme, and seven from Congleton. They are accessible by good roads on all sides. The Staffordshire Potteries are very near them, and the North Staffordshire Railway passes within a short distance from them.

For further particulars may be obtained on application to Messrs. Beaumont and Urmsion, solicitors, Warrington.

TO COAL, COPPER, IRON, CHEMICAL, and other MANUFACTURING COMPANIES.

TO BE LET, ON LEASE, for a term of years, as may be agreed on, a most extensive COAL-FIELD, of the first quality; a FARM, of 240 ACRES of GRASS LAND, with a good commodious DWELLING-HOUSE and attached OFFICES, WALLED GARDEN, STABLING for 50 or 60 horses, from 20 to 30 WORKMEN'S COTTAGES and GARDENS, most eligible sites for the erection of Copper, Iron, Chemical, and other Manufactures, situate at Neath Abbey, in the county of Glamorgan, being close to the navigable river Neath, and only five miles from Swansea.

Mr. W. Hunter, at Briton Ferry, near Neath, will show the lands and coal; for particulars apply to Messrs. Adam Murray and Son, surveyors and land agents, 35, Craven-street, Strand, London.

JAMES BOYDELL, LAND, MINE, and MACHINERY VALUER, and AGENT, No. 54, THREADNEEDLE-STREET, LONDON.

HAS TO DISPOSE OF
A PATENT RIGHT for BUILDING VESSELS with IRON, on a principle which combines increased strength with greater economy of manufacture.

Also, ONE for the CONSTRUCTION of IRON ROOFS, on a like principle. A specimen of this may be seen as a roof covering one of the retreat houses of the Birmingham and Staffordshire Railways, by permission of Mr. Clift, the engineer, at the works.

Also, ONE for IRON JOISTS and RAFTERS, and for a plan of joining large plates and also of iron.

Also, ONE for the AMALGAMATION of STEEL and IRON—in the progress of the manufacture of the latter, by which a great saving may be effected in the cost of making edged tools.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

Also, SOME COAL and IRONSTONE MINES, FREESTONE QUARRY, and a large FREEHOLD ESTATE.

Also, STEAM-ENGINES and MACHINERY, of all descriptions, and which he is enabled to offer at very moderate prices.

Also, SHARES in a well-known valuable SLATE QUARRY, in CARNARVONSHIRE.

Also, SHARES in, or the whole of, a GAS-WORK, which supplies exclusively a populous town in Shropshire, and which can be greatly extended.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

TO ENGINEERS, BUILDERS, AND ARCHITECTS.

JAMES BOYDELL, 54, THREADNEEDLE-STREET, having been a very large manufacturer of machinery and irregular shaped iron, and having accomplished the rolling of some descriptions of the latter, thought by many to have been impracticable, will be happy to ASSIST any ENGINEERS, SHIPBUILDERS, and ARCHITECTS, in the planning of the details of what IRONWORK they may have occasion for, or bringing to perfection any invention in machinery, as well as procuring such materials for the purpose as they may require.

DUISBURG IRON-WORKS AND MINES, IN WESTPHALIA, CLOSE TO THE RHINE.

Managed in England according to the principles of the "Cost-book System," and in Prussia as a *Société en Commandite*, under laws limiting the liability of the shareholders to their personal subscription.

Company's Office, 28, Moorgate-street, City.

GROWA SLATE COMPANY, TREVALGA, CORNWALL.

6000 parts, or shares, of £2 per part, (share all paid), whereof 2300 parts, or shares, are offered to the public.

NOW IN WORK ON THE "COST-BOOK" PRINCIPLE.

The QUARRY is situated on the CLIFFS, within one mile of the port of Boscawen—vessels load at the quarry during three-fourths of the year.

The SLATE forms a remarkable exception to the general constitution of this mineral; and whilst its applicability to the several purposes of roofing, flooring, and the usual adaptations of the grey, blue, and other slates, a new series of utilities has been developed to the directors (by a gentleman who has, in consequence, been appointed superintending engineer to the company), which will extend its application in a variety of preparation to an extensive and completely novel character of uses.

A PATENT in course of completion, for the purpose of securing to the shareholders in this undertaking the exclusive benefits to be derived from one of the most attractive discoveries of the present age.

Prospectuses, and all other information, may be obtained at the offices of the company, 57, Threadneedle-street, where specimens of the slate may be seen, or to the solicitor John Chapple, Esq., 70 A, Aldermanbury. Prospectuses can also be had at the office of the Mining Journal, 26, Fleet-street. London, May 16, 1849.

NOTICE.—WENHAM LAKE ICE SUPERBIDDEN! (BY ROYAL LETTERS PATENT).

MASTERS and CO.'S PATENT SHERRY COBBLER FREEZING and COOLING JUG.

By this Patent Jug, spring water is congelated into the purest ice, on the table or side-board, for Sherry Cobblers, &c., in FIVE MINUTES, at the cost of two pence. The public is respectfully invited to see the process of this extraordinary and useful invention; as actually BOILING WATER CAN BE CONVERTED INTO ICE without the aid of ice!

Patentees of the Freezing Machine (by which 30 to 100 quarts of Dessert Ice can be made in a few minutes, and Rock Ice at the same time, and Wine cooled), Cooling Pencils, Refrigerators, Butter Coolers, and Preservers. By this last-mentioned article a bottle of wine, &c., can be cooled in a minute without ice, for one halfpenny.

MASTERS & CO.'S IMPROVED APPARATUS FOR MAKING PURE SODA WATER, LEMONADE, NECTAR, and all ERATED WATERS.—This apparatus needs only to be seen to be appreciated. Price 20s.—**MASTERS & CO. PATENTEEES,** 294, REGENT-STREET, and 7, MANSION-HOUSE-STREET, CITY.—Also, BY ROYAL LETTERS PATENT.

MASTERS & CO.'S PATENT ROYAL BUFF KNIFE-CLEANERS, which will clean and polish, equal to new, twelve knives in one minute, without noise or dust.

LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sums not less than £500.—Applications to be made or addressed to this office, 129, George-street, Edinburgh, May 30, 1849.

D. RANKINE, Treasurer.

TO COALOWNERS, MANUFACTURERS, CONTRACTORS, and OTHERS.—STEAM-ENGINE FOR SALE.

TO BE SOLD, BY PRIVATE CONTRACT, a CONDENSING BEAM ENGINE, of 100-horse power, suitable for drawing coals, hauling waggons, or pumping water. The engine is quite new, having never been erected.—Address Mr. Thomas Murray, Chester-le-Street, Fence Houses, Durham.

MANAGER OF COAL AND IRON MINES.—WANTED IMMEDIATELY, a PERSON competent to undertake the MANAGEMENT of COAL and IRON MINES in the NORTH of IRELAND. The coal mines are partly worked, and when they are in full work, it is proposed to commence the manufacture of iron. The applicant must be qualified to superintend the erection of the necessary works.—Letters, with real names and address, stating how long and in what place the applicant has been employed, to be addressed to "A. B.," No. 18, Great Corn-mart, Russell-square, London.

WANTED IMMEDIATELY, a SECOND-HAND WINDING STEAM-ENGINE for COLLIERY USE—from 6 to 8-horse power.—Apply (by letter) to Mr. H. Williams, mineral engineer, 61, Moorgate-street, London.

STEAM-ENGINE—15-horse power.—FOR SALE, an excellent CONDENSING STEAM-ENGINE, by Boulton and Watt, with fly-wheel (five tons), pump, steam chest, cold water pump, and pipe to well—stone and brick foundation—three flights of stone steps, and apparatus; now lying at Old Barge-house, Blackfriars.—Price £100.

Apply to Messrs. Fuller and Horsey, Billiter-street, City.

ENGINE FOR SALE, BY PRIVATE CONTRACT.—A 40-inch cylinder ENGINE, with boiler, 10 tons, in excellent condition: it is situated within 2 miles of a sea-port.—Also FOUR HUNDRED TONS of FITWORK, of various sizes, and several CAPSTANS, SHEARS, ROPES, and CHAINS.

For further particulars apply to Mr. Henry Burgess, Camborne, Cornwall.

FOR SALE, BY PRIVATE CONTRACT, a 36-inch cylinder STEAM-ENGINE, with boiler, 9 tons.—For particulars apply to Mr. Henry Cox, Marazion, Cornwall; or to Capt. Hugh Stephens, Gwinear, near Camborne.

VALUABLE STEAM-ENGINES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, a very excellent 70-horse PUMPING ENGINE, with two boilers, and every other requisite, complete.—Also a 32-inch STEAM-ENGINE, with or without boiler or stamps.

For particulars apply to Mr. T. H. Edwards, Helston.—June 25, 1849.

VALUABLE AND SAFE INVESTMENTS.—Mr. H. B. RYE invites the attention of CAPITALISTS to the following LIST of MINING INVESTMENTS, and will be pleased to give every LOCAL and other INFORMATION on application at his OFFICE, No. 77, OLD BROAD-STREET.

Mines.	Price per share.	Div. p. share.	Mines.	Price per share.	Div. p. share.
South Frances.....	£250	..... 400	Wheat Travalva.....	£70	..... £12
Wheat Margaret.....	250	..... 50	Wellington Mines.....	25	..... 64
Providence Mines.....	200	..... 40	Trehane.....	25	..... 92
Devon Great Consols.....	190	..... 35	Wheat Providence.....	18	..... 6
West Caradon.....	120	..... 15	Tamar Consols.....	8	..... 14
Condurow.....	80	..... 12			

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE OF SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17 1/2 to 25 per cent. upon his outlay. He is also in a position to transact business in the following:—viz., Travalva, Mary Ann, Great Devon Consols, West Caradon, Tamara, Treleighs, Altons, Bedford, H. Imbush, South Tolgas, Condurow, Trehellian, St. John del Rey, North Pool, Keswick, West Seton, & Rhymney Iron.

MR. EVAN HOPKINS, C.E., F.G.S., CONSULTING ENGINEER AND INSPECTOR OF MINES, May be CONSULTED DAILY (by letters) on all subjects connected with MINING PROPERTY, both Home and Foreign. BARRINGTON-ROAD, Brixton.

MR. C. S. RICHARDSON begs to announce that he has REMOVED his OFFICES from Whitefriars-street, Fleet-street, to 15, OLD BROAD-STREET, CITY.

JAMES LANE, MINING SHARE DEALER, 80, OLD BROAD-STREET, LONDON.

CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be HELD at the office of the company, No. 26, Austinfriars, on Tuesday the 17th July next, at One o'clock precisely.

By order of the court of directors, WM. LECKIE, Secretary.

ROYAL SANTIAGO MINING COMPANY.—The directors hereby give Notice, that the ANNUAL GENERAL MEETING of the shareholders will be HELD at the office of the company on Wednesday, the 11th of July next, at One o'clock precisely, when the directors will make their report.

26, Broad-street-buildings, June 22, 1849.

TAMAR SILVER-LEAD MINING COMPANY. THIRTEENTH DIVIDEND.

Notice is hereby given, that a DIVIDEND of TEN PER CENT. has been declared by the directors upon the paid-up capital of this company, PAYABLE on Wednesday, the 11th proximo, and succeeding Wednesdays, between the hours of Twelve and Four. The certificates are required to be left at the office two clear days, in order to be examined and marked.—44, Finsbury-square, London, June 21, 1849.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be HELD at the office of the company, No. 5, Finsbury-circus, on Wednesday, the 25th day of July proximo, at One o'clock precisely, when the election of three directors and one auditor will take place.

Directors going out by rotation—Sir John Easthope, Bart., and Charles Morris, Esq. Auditor going out by rotation—Henry Bunster, Esq.

And who, being eligible thereto, are candidates for re-election. Candidate for the vacancy in the direction caused by the retirement of John Hibbert, Esq.—Joseph Tasker, Esq., of Middlefield Hall, Brentwood, Essex.

The transfer books will be closed on the evening of the 12th, and re-opened on the 26th of July. By order of a court of directors, JOHN MATHER, Secretary.

BICKFORD'S PATENT SAFETY FUSE.—The Patentees of the ORIGINAL, and only real, SAFETY FUSE, beg to inform Merchants, Mine Agents, Railway Contractors, and all persons concerned in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which being patent right, is fully distinguished from all imitations, and ensures the continuity of the gunpowder.

The Safety Fuse is now protected by a Second Patent, and manufactured by greatly improved machinery. BICKFORD, SMITH, & DAVEY, Camborne, Cornwall.

WIRE ROPE.—The Undersigned beg to inform the public, that they have become SOLE LICENSEES of Mr. ANDREW SMITH, for the MANUFACTURE and SALE of his PATENT WIRE ROPE; and having fitted their premises with his very superior improved machinery, have only to assure those who may favour them with their orders, that the same care and attention shall always be bestowed which they have reason to believe, has secured them such general support.

LIGHTNING CONDUCTORS, SIGNAL CORD, and SASH LINE, always in stock. WILKINS & WEATHERLY, Patent Wire Rope Works, No. 39, High-street, Wapping.

PORTER'S PATENT CORRUGATED IRON BEAMS, GIRDERS, and FIRE-PROOF FLOORS.—These BEAMS and GIRDERS are about 30 per cent. lighter, and 20 per cent. cheaper, than any others of wrought-iron.

The FIRE-PROOF FLOORS, although not more costly than those of cast-iron, with brick arches and concrete, give greater security from fire, with less than one-tenth of the weight.—MANUFACTORY—IRON BUILDING & ROOFING WORKS, SOUTHWARK OFFICE—3, ADELAIDE-PLACE, LONDON-BRIDGE, CITY.

INDURATED and IMPERVIOUS STONE, CHALK, &c.—AGENTS, with capital, are WANTED in all TOWNS to SUPPLY under British and Foreign Patents the great demand for HUTCHINSON'S IMPROVED MATERIALS—hard as granite, impervious to moisture, vermin, &c.; the cheapest and most durable for all buildings, hydraulic, paving, monumental and decorative work.—The profits are large.

Apply to HUTCHINSON & CO., East Temple Chambers, London, or Tambridge Wells, Kent, stating name, address, and capital at command.

N.B.—Houses cured of damp. The produce of soft stone, quarries, chalk, plaster of Paris, wood, pasteboard, and all absorbent materials impregnated with resin, vermin, &c. LICENSES GRANTED.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY.....Asturian Mining Company—offices, at Two.
MONDAY.....Eastern Counties Railway Company—London Tavern, at One.
TUESDAY.....South Wharf Mining Company—Queen's Head, Tavistock, Two.
 Colonial Bank Company—London Tavern, at Twelve.
 Hungerford Market Company—offices, at One.
 Legal and Commercial Life Assurance Company—offices, at Twelve.
 London Dock Company—offices, at One.
 Atlas Assurance Company—offices, at Eleven.
WEDNESDAY.....Anglo-Mexican Mining Association—offices, at One.
 Callington Mining Company—offices, at Two.
 Lewis Mining Company—offices, at Three.
 Clergy Mutual Assurance Society—offices, at One.
 Phoenix Gaslight and Coke Company—offices, at One.
 India and London Life Assurance Company—offices, at Twelve.
THURSDAY.....Mining Company of Scotland—offices, at Twelve.
 European Gas Company—offices, at Two.
 Royal Exchange Assurance Company—offices, at Two.
 Legal and Commercial Assurance Company—offices, One.
 Reversionary Interest Society—offices, at Half past Eleven.
FRIDAY.....Rock Reversionary and Loan Society—London Tavern, at Twelve.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

BANK OF AUSTRALASIA.

The fifteenth annual meeting of this bank was held at the office, Austin-friars on Monday last, the 25th inst.—G. H. FOSTER, Esq., in the chair.
 The SECRETARY (Mr. Milliken) read the report, from which it appeared that in the general condition of the colonies the directors looked forward with confidence to considerable improvement. Their productions were yearly increasing, both in variety and importance. Population was rapidly extending; and emigration, which was now going forward on an extensive scale from this country, as well as from Germany, must ere long exercise a beneficial influence on the position of the settler, and develop still further the natural resources of the colonies, although the emigrants which had arrived at the date of the last address had not been sufficiently numerous to produce any material impression on the price of labour. The business of the establishment during the year had been satisfactory. At Port Phillip there was a steady and profitable increase, and the mineral wealth of South Australia had brought an accession of business to the Adelaide branch. With reference to the debt due by the Bank of Australia, an amicable arrangement had been concluded with a considerable number of the shareholders in this country, from whom the sum of 54,000*l.* was received; and as the most ample forbearance had been exercised, legal proceedings were instituted against those who failed to avail themselves of the opportunity afforded them of coming to a similar arrangement. At Sydney, the directors of the Bank of Australia promptly adopted measures for the liquidation of the debt, and up to the 14th February, when the last address left the colony, the sum received amounted to 51,000*l.*, making, together with the amount received in London, a payment of 105,000*l.* on account. The assets and liabilities stood as follows:—

ASSETS.	
Government Stock, specie, and cash.....	£ 332,999 11 9
Bank premises.....	23,588 4 11
Bill receivable, and other securities.....	1,369,461 16 5=£1,706,979 13 1
LIABILITIES.	
Capital.....	£ 900,000 0 0
Circulation.....	105,433 0 0
Bills payable, and other liabilities.....	145,045 19 3
Deposits.....	473,481 18 3
Bad debt fund.....	82,018 15 7=£1,706,979 13 1

It was a cause of deep regret to the directors to find themselves compelled to suspend for so long a period the payment of dividends, and they had carefully directed their attention to the subject, with an anxious desire to arrive at a sound conclusion as to the propriety of an early resumption; and, accordingly, they felt themselves justified in announcing their intention to pay a dividend of 12*½* per share, free of income-tax, on the 1st of October next.

A long discussion took place on the subject of the bad debts, the balance due from the Bank of Australia, and other matters, after which the report was agreed to. A resolution, approving of the appointment of auditors, was moved by Mr. J. WILSON, and seconded by Major BRYAN. This led to a long discussion, in which the directors (Messrs. Foster, Brownrigg, and Farrer) pleaded the inability of auditors, and such an appointment being contrary to the deed; but the meeting was not to be diverted from the good old custom, and the resolution was, therefore, passed by a majority. A further discussion then took place on various points, when the CHAIRMAN assured the meeting that counsel's opinion would be taken as to the possibility of the appointment of auditors.—Mr. WILSON suggested that, in case it were against the appointment, a special meeting should be convened for altering the deed to that purpose.

A vote of thanks was passed to the directors, and the meeting adjourned.

SOUTH AUSTRALIAN BANKING COMPANY.

The annual meeting of this company was held at the establishment in Old Broad-street, City, on Tuesday, the 26th inst., for receiving the report, the election of directors, and the declaration of a dividend.

EDWARD DIVETT, Esq., M.P., in the chair.

Mr. E. J. WHEELER (the London manager) read the advertisement, the minutes of the former meeting, and the following report:—

The court of directors of the South Australian Banking Company have the pleasure to make to the eighth annual meeting of proprietors the following report of the company's affairs:—During the last year, the emigration to South Australia has been unabated; not only has a large supply of labour gone out, but every ship has taken a proportion of capitalists (more or less wealthy) who will become employers of that labour, and so augment the commerce of the colony, and the consequent operations of your bank. The directors have remained firm in their purpose of excluding from the balance-sheet every questionable asset; the same rigid scrutiny which has been applied in late years, was again enjoined upon the local directors and manager, and in reporting upon the annual return to 28th November last, Mr. Stephens states that "in compliance with your instructions, the whole of the assets have been most carefully looked into, and I can confidently report your capital as safely employed. I have used the utmost candour in reporting upon every debt, and I can assure you of equal sincerity, when I state that in my opinion the bank was never in a more satisfactory position."

The summary of the general profit and loss account is as follows:—
 Amount of undivided profits on 28th May, 1849.....£10,196 10 3
 Less appropriated to reserve fund.....£ 4,917 17 3
 Net total of profits at Adelaide and London, for 1848-9, after every deduction for losses, expenses, &c.....14,693 7 0

From which deduct—Dividends paid in July.....£4503 2 6
 Ditto ditto in January.....4503 2 6
 Income tax on dividends, paid for proprietors.....251 7 2
 Dividends on colonial shares.....33 4 2 9,290 16 4

Balance of undivided profits on 28th May, 1849.....£14,509 7 11
 From the foregoing balance of net profit, viz., £14,509 7*½* 11*½*, the directors recommend that a sum of 3000*l.* be written off preliminary expenses account, that 1800*l.* be set aside for the reserve fund, and that from the balance a dividend of 6*½* per cent. per annum, clear of income-tax, upon the capital, be made payable half-yearly, in July and January as usual. Should you adopt this recommendation, the preliminary expenses account will be reduced from 10,000*l.* to 8000*l.*, and the reserve account will stand at about 4400*l.* The reserve fund is kept invested in 3 per cent. Consols, apart from the trading capital of the bank.

The following is a summary of the London balance-sheet of the company:—

LIABILITIES.	
Paid-up capital.....	£180,950 0 0
Amounts due to Adelaide office.....	9,015 2 1
Other balances and claims.....	1,299 7 9
Reserve account.....	4,413 15 9
Profit and loss—balance.....	11,258 9 2
Total.....	£206,936 12 7
ASSETS.	
Capital at Dr. of Adelaide office on 28th May, 1849.....	£122,289 19 4
Cash in London, bills receivable, funded stock, and deposits at interest.....	66,982 19 6
Other assets and open policies.....	6,540 12 6
Invested in Consols for reserve to 1848.....	3,133 1 3
Preliminary expenses account.....	8,000 0 0
Total.....	£206,936 12 7

The annual accounts to 28th ult. have been duly audited, and will now be submitted for confirmation. The directors vacating by rotation are, J. H. Leckie, Esq., and J. R. Mills, Esq. The auditors, J. Brown, Esq., and F. Ladbrooke, Esq., also retire pursuant to the Charter and Deed of Settlement; but all these gentlemen being eligible for re-election offer themselves accordingly.

The local board at Adelaide still comprises G. Morphet, Esq., R. F. Newland, Esq., and E. J. S. Timson, Esq., to whom, and to the colonial manager, Edward Stephens, Esq., the proprietors' thanks are due for their great attention to the interests of the bank. At the special general meeting, held 2d March last, a wish was expressed for a list of the shareholders to be appended to the report. Unless such a course be now disapproved, the court of directors propose printing with this and every future report, a list of the proprietors, with their addresses, and number of votes.

The directors have only to add that the company's affairs, both at home and in the colony, appear in the most confident condition, a prudent liberality and a disposition to afford all reasonable facilities to the customers, are the policy now steadily maintained, and the court will endeavour to preserve the utmost vigilance over all the concerns of the bank, that it may firmly maintain its present satisfactory position.

The balance-sheet was also read to the meeting, and a detailed statement of the accounts was laid on the table.

Mr. MILLER said, it was impossible at a meeting like that to follow the figures as read by the manager. They ought to have copies of them presented to the shareholders on coming into the room, like in other companies.

The CHAIRMAN said, the accounts had been open to the inspection of the shareholders as soon as the directors could make them up. There was a feeling expressed at a former meeting, that the accounts, when so prepared, should be open for the inspection of the proprietors at the office of the company.

Mr. MILLER observed that it was a suggestion of Mr. Poynder, but it was not understood that they were not to be presented to the shareholders at the meeting. The CHAIRMAN said, they had been ready for the inspection of the proprietors since last Saturday afternoon, which was as soon as they could be got ready. Mr. MILLER thought it would be admitted that the proprietors ought to be in complete possession beforehand of all that was to come before the meeting. He hoped the directors had no inducement to keep anything back.

The CHAIRMAN said, the board had acted in compliance with the expressed wish of the last meeting.

Mr. HITCHON said, it was impossible for him then to go into the accounts. He had come 210 miles to attend this meeting; but if the accounts had been sent down to him, he might have looked over them on Sunday morning, or in the railway carriage, and been more prepared for the business of this meeting. (Hear, hear.) He hoped they would not again be kept at this meeting for four hours, and afterwards have some point of law communicated to them to upset their proceedings; if any such thing were intended for this meeting, he hoped they might know it at once.

The CHAIRMAN replied, that the hon. proprietor had travelled here at his own desire to attend the last meeting, and had assisted in calling it; and that, if it were discovered that in doing so he had acted contrary to their laws, he could not find fault with the directors.

A PROPRIETOR said, if they had been informed at once that there was an opinion of the Attorney-General that the meeting was perfectly illegal, there would have been an end of the matter at once.

The CHAIRMAN observed that, if he had done so, he might have been charged with a desire to stifle discussion, and any complaints on the part of the shareholders; the directors were in the horns of a dilemma—they were obliged to adopt that course to save any complaint of their stifling discussion. (Hear.)

The Rev. T. TIMSON saw two or three things in the present report which caused him gratification. In the first place, there was a more full statement of the accounts, and, secondly, there was to be a list of the shareholders appended to the report, with their addresses and number of votes. Had this course been adopted in the former year, it would have prevented a great deal of opposition. (Hear, hear.)

The CHAIRMAN said, there had been some discussion on the propriety of publishing the list of shareholders. The directors had no objection to it, but very contradictory opinions had been expressed on the part of the proprietors—some wished it, others did not. The directors stated, that they would be entirely guided by the wishes of the proprietors. (Hear, hear.) It had been embodied in the report, in order to elicit an expression of opinion on the part of the shareholders. As to the accounts, he still thought it would be more satisfactory and advisable for the bank that any gentleman should come to the office to look into the accounts, than have them go forth to the public in detail, which was quite contrary to the usual custom of bankers. (Hear, hear.) In fact, the principal features of the accounts were embodied in the report, which he hoped would be deemed sufficient. (Hear, hear.)

A PROPRIETOR said, there was no question before the meeting.

The CHAIRMAN here stated, that he was ready to afford any explanation. In moving that the report be adopted, he might take upon himself to say, that the directors were justified in recommending the dividend they now proposed. After paying every expense here and at Adelaide, the profits left a clear net return of about 8 per cent. upon their capital as the profit of the past year. This amount would be, of course, applicable to a dividend, after deducting a reserve of 10 per cent., and appropriating a further sum to the liquidation of the preliminary expenses, which they were enabled to do this year, he was happy to say, to the extent of 20 per cent. Looking at the report, on the whole, he thought it showed a most satisfactory state of affairs. (Hear, hear.) There was no reason to fear but the next year's accounts would be equally good. (Hear, hear.) Business in the colony was now in a sound condition; and as there was none of these political troubles that had prevailed on the continent, to the prejudice of all business, he had no fear of the growing prosperity of the undertaking. (Hear, hear.)—Mr. FUSSELL, a director, seconded the motion.

A long discussion then took place on various topics, in which Mr. Bevan, Mr. Mills, Mr. Todd, the chairman, Mr. Miller, Mr. Watson, and others, took part, when the report was adopted unanimously. A dividend after the rate of 6 per cent. per annum was agreed to unanimously. The retiring directors and auditors were re-elected.

The CHAIRMAN moved a vote of thanks to Mr. Wheeler, the London Manager, to Mr. Stephens, the colonial manager, and to the local board of directors. Mr. MILLER, who had taken a very antagonistic part throughout the business, expressed his willingness to second the above motion.

Mr. WHEELER returned thanks for himself, Mr. Stephens, and the local directors. He had been instructed on the last occasion, when the vote of thanks was passed to Mr. Stephens, to return thanks; and in doing so now he had no doubt he should give increased pleasure to his friend Mr. Stephens, as well as the local directors, whose value to this bank could not be too highly appreciated. A vote of thanks was then passed to the worthy chairman and directors, and the meeting separated.

SOUTH AUSTRALIAN COMPANY.

The 13th annual meeting of this company was held at the offices, New Broad-street, City, on Wednesday, the 27th inst.

J. R. TODD, Esq., having taken the chair, Mr. D. McLAREN (the manager) read the report of the directors, which was of considerable length, and highly important to the public, as well as to the proprietors. From this document we make the following selections in the words of the report:—

The colonial accounts to the 31st October last have been received, and approved by the board. They include particular inventories of the company's property, which amount to 309,843*l.* 9*½* 8*½*. Very satisfactory progress continues to be made in leasing the real property belonging to the company. The following were the receipts, as per the rent rolls, for the year ending 29th September last:

Annual rental of town property.....	£1846 4 0
Ditto ditto of port buildings.....	2239 19 6
Net receipts from wharf during the year.....	1761 15 2
Annual rental of country lands.....	5186 16 4
Total.....	£11,034 15 0

The amount of revenue from these sources, for the year ending 29th Sept., 1847, was.....£5,542 2 4

Increase during last year.....£2492 12 8

To this increase the respective properties contributed in the following proportions:—

The town property.....	£ 85 6 10
The port buildings and wharf.....	1135 6 9
The country lands.....	1270 19 1
Total.....	£2492 12 8

Despatches from the colonial manager of the 30th January inform us of further leases effected up to that date, affording an increased annual rent of 1984*l.* 2*½* 2*½*.

Of this there arises from the town property.....£120 0 0
 Ditto ditto from port ditto.....300 0 0
 Ditto ditto from country lands.....1604 2 2

There is thus already secured an annual rental (including the receipts from the wharf) of 16,000*l.* with a certainty of a rapid continued increase. The town property yielding that additional rental of 1300*l.* consisted of four acres, at 30*l.* each, on building leases of 21 years, without any stipulation of a right of pre-emption. 125*l.* of the additional amount receivable from the port property arise from leases of small portions of land, comprising in the aggregate only about one acre. And so great has been the increase of business at the port, that the returns from the wharf and warehouses there, for three months ending 31st January last, amounted to 1369*l.* 4*½* 2*½*. A considerable proportion of the country lands lately leased was at the rate of 7*½* per acre, while the whole of the additional leases reported by the colonial manager to 30th January last, average rather more than 6*½* per acre. As such leases are regularly effected, it is obviously the policy of the company not to sell their lands, but to wait patiently for their occupation, and the consequent increase of our rent rolls. Mr. Giles has accordingly been instructed not to sell any improving property, except at a large advance on his valuations in the preceding inventory. In conformity with these instructions, he sold, during the year ending 31st October last, one entire town acre, and portions of 12 others. These sales of town lands and the valuation of the small portions (which there is reason to believe is in proportion to the prices obtained for the portions sold), yield an advance on the

Preceding inventory of.....	£1889 2 9
Four small allotments at the port not exceeding in all half an acre, an advance of.....	800 0 0
One entire section of country lands (134 acres), and small portions of three others—an advance of.....	589 1 0
Total.....	£3278 3 9

Both the cattle and sheep departments have proved unprofitable this year. In accordance with the frequently-expressed wish of the shareholders, all the cattle were sent in July last (except some reserved for rations, and a few working oxen), so that the expenses hitherto incurred in that department will now be saved. The extreme depression in the price of wool last year, coupled with the very low price of sheep and the high rate of wages in the colony, occasioned an actual loss, in this department, of about 1300*l.* It is satisfactory, however, to state, that if the remainder of this year's clip come to as good a market as the part which was sold last month, this loss will not only be recovered, but nearly as much more obtained as profit. The wishes of the shareholders, however, having been repeatedly expressed at the public meetings, and being quite in unison with the sentiments of the board, have been faithfully communicated to Mr. Giles. He has been, accordingly, instructed to avail himself of the earliest opportunity of selling flocks at saving prices. The prices of butchers' meat continue unprofitably low in all the Australian colonies. Our sales of sheep and cattle have been again very limited.

The sales of the former during the year amounted to.....£1030 16 6

The value of those killed for rations.....617 9 6

The net proceeds of wool amounted only to.....£1647 10 6

The sales of cattle to the butchers, value of those killed for rations and net proceeds of sales of fallow, amounted to.....£448 14 3

The sales of horses to.....268 10 0=£1717 4 3

Total.....£3569 9 10

In consequence of the extremely low prices obtained for fat cattle, the colonial manager ordered 25 head to be boiled down for tallow. The tallow was sent to London for sale, but he did not require to wait for the actual result of the sale to see that that process would not answer. The tallow proved of good quality, and was received here in good condition, but the market then was, and still is, in so dull a state, that the board is pleased that the experiment was thus limited. The following is the summary of the revenue for the last year from the various departments enumerated in the previous part of this report:—

Rental of the town property.....	£1846 4 0
Ditto of port buildings and receipts from wharf.....	4001 14 8
Ditto of country lands.....	5186 16 4
Profit on sales on land (town, port, and country).....	3283 8 9
Net proceeds of wool.....	3624 6 7
Sales of sheep and cattle to the butchers, including value of those killed for rations, and sales of horses.....	2365 3 3
Total.....	£20,307 8 7

The total current expenses in the colony during the last year, exclusive of those connected with the mineral operations, were as follows:—

Salaries and wages in Adelaide.....	£900 8 0
Miscellaneous charges there.....	374 18 10=1275 6 10
On account of the cattle.....	1122 7 1
Ditto ditto sheep.....	6040 4 9
Ditto ditto town and port property and country lands.....	581 13 8
Total.....	£9019 12 4

This last year, amount to.....£1746 14 9

Interest on debentures, &c.....£21 9 7=2368 4 4

Total.....£11,387 16 8

With respect to the company's mines, the report of Mr. Joseph Remfry, the mining captain engaged by the board, spoke thus:—"After all that I have stated, I wish to be perfectly understood, that I believe the Kanmantoo Mine to be a most lasting, rich, and productive concern, but it will take some time before the mine will be got into a practical state of working." He adds, "There are several other places in the South Australian Company's lands which deserve the miner's attention—the Bremer Mine for one." His subsequent reports confirm these favourable views.

Results of the most favourable kind may be confidently expected from the establishment of smelting-works in the colony, and these are no longer problematical, but certain. The first of these has been erected by Messrs. Thomas on our own lands, in the immediate neighbourhood of Kanmantoo. From that work we have received in London about 1 ton of copper, which has been assayed here, and found to contain from 96 to 97 per cent. pure copper. It has been sold at 68*½* per ton, while the current price of the copper (the kind of which that small lot consisted) is 75*½* 10*½*. The difference in price is not more than might be expected, when the disadvantages necessarily attaching to the first product of a small colonial establishment, compared with the copper produced in the smelting-works of England, are considered. In the former case, too, the operation was by wood, not by coal. The same quantity of copper has been sent by the colonial manager to Singapore and Batavia to try these markets. Extensive smelting-works are in the course of erection at the Burra Burra Mines, by Messrs. Walters and Williams, parties connected with Messrs. John Schneider and Co., of London, whose operations will be conducted on Napier's patent. They intend to erect another work at Kanmantoo, Mr. Giles having been, for some time past, in treaty with them for that object. A third establishment of this kind, near Port Adelaide, was in the course of erection, and is, by this time, most probably in operation. The importance of these establishments to the proprietors and workers of mineral lands can hardly be overrated. The saving of freight less, will now be advantageously converted into copper.

The saving of freight will be immense, and large quantities of low ores, which would otherwise have been valueless, will now be advantageously converted into copper.

Two leading objects which the board had in view, in the expenditure at the mines, were developing their real character, and facilitating the granting of sets to others, who might be disposed to work them with spirit. Two sets, one in the Mount Barker district, and the other in Lyndoch Valley, have been definitively selected, and are now being worked by a very respectable English company, under lease of 21 years. So that besides a surface rent for the ground, we shall receive a specified proportion of the ore raised by them without our incurring any expense whatever. One of these sets is that on the Bremer river, mentioned by Capt. Remfry, from which a small parcel of ore has been received in London, and found to be of a high produce.

The total expenditure in this department, in raising, dressing, carting, and shipping ore, for the year ending 31st October last was.....£7923 8 2

Of which there was for cottages for the men, &c.....254 9 10

Net amount of current charges.....£7668 16 4

The quantity of ore raised during the year was estimated at 940 tons. A considerable portion of that expenditure must be regarded as preliminary expenses, in forming the mine and facilitating future workings and future leases.

The continually increasing business at Port Adelaide rendered a further extension of our wharf necessary. By the last accounts it was progressing most satisfactorily, so that in a week or two after the date of his last dispatches, the manager expected to have "berths for two additional vessels of large tonnage," that is, for 10 in all.

Two joint-stock companies have been formed—one in England, reserving a portion of the shares for the colonists, and another in Adelaide, with shares reserved for England, for constructing a railroad from the town to the port. The governor has recommended the matter to the council, and the views of the Secretary of State for the Colonies are understood to be favourable, so that this desideratum will, in all probability, be soon obtained. Another company has been proposed in London, for forming a railroad, or tramroad, from the port, toward the Kapunda and Burra Burra Mines. They have engaged a surveyor, to proceed immediately to the colony, to examine the proposed line of road, and report thereon. The favourable bearing of these and similar undertakings on our property and future income, is so obvious as to preclude the necessity of any more special reference. The board submit to the meeting the propriety of declaring a dividend for the current year, at the rate of 4 per cent. per annum, being in the proportion of 1*½* per share on the paid up shares, free of income-tax, one-half to be payable on the 14th July, and the other on the 14th January next.

The two directors who retire are Richard Foster, Esq., and John Fussell, Esq., who offer themselves for re-election, as do the two auditors, who retire agreeably to the Deed of Settlement. Her Majesty's colonial land and emigration commissioners have continued during this year to send regular and ample supplies of labour, which have all arrived safely, and have been immediately absorbed by the urgent demands of the colonists.

Considerable numbers of the labouring classes, at their own expense, and of others possessed of capital, have gone to South Australia during this last year in merchant vessels; and upwards of 1500 German emigrants, so that the population of the colony probably now amounts to 43,000 or 44,000 souls. By an accurate census taken in March, 1846, the population then consisted of only 32,300.

The prospect of the different Australian colonies soon enjoying the privilege of self-government, by means of representative councils, will, no doubt, promote the emigration of men of property and intelligence, and thus contribute to the prosperity of these colonies, among which South Australia undoubtedly takes the lead in popular favour.

In conclusion, while honoured with your confidence, the directors will devote their best energies, as hitherto, to the most judicious and profitable management of your affairs, and they have the fullest confidence of your deriving, at no distant period, an ample return for your capital.

The accounts were also read to the meeting.

The CHAIRMAN said, very few observations were necessary, for the directors had endeavoured to give the fullest explanations in the report just read to the meeting. The expectations held out last year had been fulfilled as nearly as circumstances would permit. It was true that they had met with some losses; for instance, on their wool operations; but in this they had only suffered like other flock owners adjoining. The difficulty would be surmounted by getting rid of the flocks themselves as soon as possible. (Hear, hear.) The money expended in the investigation of the mineral lands would no doubt be found to have been most profitably applied. It had shown the value of the copper on their lands, some of which averaged about 24*½* per cent., and was, therefore, as valuable as any ore which had arrived in this country from South Australia, excepting the Burra Burra. Still the proprietors must look to the revenue from their town and country lands as the legitimate return for their capital, instead of from anything that they might possess of a speculative character. As to the working of their mines, the directors would cease doing so, as soon as other parties would undertake them. At the same time, the agents were working as cautiously as possible, and the works of the company were confined to those parts only from which returns of ore were derived. The directors had borrowed a little money in the colony, for which they paid a much higher rate than they ought to do in the present easy state of the money market, as their security was really as good as that of the Bank of England. Under the circumstances, he threw out the hint to those of the proprietors who were minded men, that a small sum—say about 10,000*l.* at 4 per cent.—would be of service in getting rid of that incubus, and placing the company in an easier position. He (the chairman) then concluded by moving the adoption of the report.

Mr. Miller, the Rev. Mr. Timson, and Mr. Hitchon, spoke in favour of the report being printed, and handed to the proprietors, before the business of the meeting commenced.

The CHAIRMAN said, if such a wish were expressed by the shareholders, the directors could have no objection.

The Rev. Mr. TIMSON complained, that although they had an advance of 7000*l.* over their previous revenue this year, yet there was no increase of the dividend, which caused him much dissatisfaction.

The CHAIRMAN said, still there was not a sufficient surplus to give an increased dividend; for they had been suffering a loss on their wool, besides the expenditure in the mineral lands. There was no difficulty in giving an increased dividend; but he never would be a party, as chairman of a company, to agree to give a dividend that was not fairly earned. (Hear, hear.) They must be aware that a great part of their land was still unproductive; they had at the present moment 100 town acres, and 20,000 country acres unproductive.

Mr. HITCHON said, the hon. proprietor (Mr. Timson) had complained of mismanagement. Now, he should like him to point out where it had existed.

Mr. FUSSELL (a director) said, he should like the hon. proprietor to point out a remedy to what he complained of.

Mr. MILLER would like to know what they expected to get back in return for the money expended in the mineral lands?

Mr. DIVETT, M.P., said, it was expected that the ore discovered would repay, with a fair deduction for preliminary expenses. (Hear, hear.) He had the highest opinion of their mineral lands. The Burra Burra had paid 800 per cent. on the capital invested in the course of one year only. He believed that would go on for two or three years. There was nothing improbable that something of the sort might be met with on the lands of this company.

Mr. ARGAS had no doubt that, when it was known in the colony of the rise in the price of wool, a demand for sheep would take place, and, consequently, afford them an opportunity of selling their flocks advantageously.

The report having been adopted, Messrs. Foster and Fussell were re-elected directors, and Messrs. White and Richards auditors.

The dividend was agreed to unanimously.

Mr. DIVERT, M.P., stated, and the CHAIRMAN confirmed the statement, that by their deed, shareholders might pay up their shares, and receive 4 per cent. interest per annum. (Hear, hear.)

After some discussion, a resolution, proposed by Mr. MILLER, and seconded by Mr. HARGREAVE, for the publication and distribution of the report and balance-sheet in future, previous to the commencement of the business of the meeting, was passed by a majority.—The CHAIRMAN, in reply to Mr. Miller, said the agents had instructions not to work any mines unprofitably, and that they were limited in their expenditure. (Hear, hear.)

A vote of thanks was passed to the chairman and directors, to Mr. M'Laren, the manager, and to Mr. Giles, colonial manager, when the meeting adjourned.

PROFESSIONAL LIFE ASSURANCE COMPANY.

An extraordinary general meeting of the proprietors of this company was held at the offices, Cheapside, yesterday, for confirming a resolution passed on the 5th of the present month, for reducing the amount of the shares, and increasing their number, so as to enlarge the basis of the society without diminishing the amount of its capital; thus giving increased accommodation to the public demand for shares in the company.

Major HENRY STONES took the chair, when Mr. WINTER read the advertisement convening the meeting.

The SOLICITOR then submitted for confirmation the following resolution, as passed at the former meeting:—"That the amount of each of the 20,000 shares into which the capital, or joint-stock, of the company is divided, be reduced from 12s. 10s. to 6s. 5s., and that the sum of 125,000*l.*, being the deficiency in the said capital thereby occasioned, be supplied by the creation and issue of 20,000 new or additional shares of 6s. 5s. each, making in all 40,000 shares of 6s. 5s. each; and that upon each of such new or additional shares the sum of 10s. be paid, the same being equal to the sum actually paid upon each of the original 20,000 shares; at which price of 10s. per share the said new or additional shares shall be issued."

The CHAIRMAN moved that the resolution be confirmed by this meeting.

Mr. SCOTT seconded the motion.

The CHAIRMAN congratulated the proprietors on the fact, that upwards of 10,000 of the 20,000 new shares created at the last meeting, had been applied for by the public, and that as soon as this meeting had confirmed the resolution they would be granted to the applicants. (Hear, hear.) He thought it ought to be clearly understood by the proprietors, as well as the public, that the policies granted by this society were indisputable, which was an important feature, in addition to its other advantages. This circumstance had been overlooked by many, although it was stated in their prospectus, as well as in the policies granted by the society. (Hear, hear.) The chairman concluded his observations by again moving that the aforesaid resolution be confirmed by the meeting.—The resolution was passed unanimously.

Mr. TEULON gave a very gratifying account of his visit to Manchester, when in the space of about four days he had induced friends and others to take 750 of the new shares. (Applause.) The principles of the society were highly appreciated there, and had he been able to spare more time in attending to the interest of the society in Manchester, he had no doubt his success would have been much more considerable. (Hear, hear.)

The Rev. Mr. MUMERY drew attention to the great exertions of one individual member of this society—viz.: Mr. Teulon, who had disposed of 8000 shares in his own family, and amongst his private friends; in addition to which he was informed, that he had induced others to take 750 of the new shares.

Mr. ARNOLD thought the society was much indebted to Mr. Teulon.—On the motion of the Rev. Mr. GLEADALL, seconded by Mr. GARDNER, a vote of thanks was passed by acclamation to Mr. Teulon, for his zeal and ability on behalf of the society.

Mr. TEULON returned thanks, and said that he had to thank their talented secretary (Mr. Baylis) for bringing him acquainted with the valuable principles of a society which was so fast rising in public estimation. (Applause.)

Mr. BAYLIS (the secretary) having borne his testimony to the great zeal displayed by Mr. Teulon, made an eloquent speech on the principles of the society, and informed the meeting that the directors had established a board of management at Edinburgh, which was second to none in that metropolis—(hear, hear)—and that the reputation of the society had been also greatly acknowledged in Glasgow, and likewise many other parts of Scotland. The secretary urged the members of the society to make it known amongst their friends, and to look to the importance of its principles to the community at large—namely, provision for its poor and destitute proprietors, indisputability of its policies, and power to transmit its benefits from parents to children and grandchildren—principles which, in his opinion, must render this society one of the most flourishing in the kingdom. (Applause.)

Mr. HART (a director) moved a vote of thanks to the chairman, which was seconded by Mr. COOPER (a director), and passed unanimously.

The meeting then adjourned.

SWEET OIL OF TURPENTINE.—We noticed, in the *Mining Journal* of the 7th April, the discovery of a process of manufacture for distilling spirits of turpentine of its highly offensive and injurious smell, and rendering the operation of painting, either in houses or other buildings, as well as by artists, a source of pleasure, rather than one of universal disgust, to the olfactory nerves. In thus distilling this spirit from its disagreeable effluvia, none of its useful properties are impaired, but it retains its powers of diluting oil paints, eradicating grease spots, cleaning paintings, &c., in all its former strength. A highly superior and novel preparation of this useful spirit has been accomplished, which is invested with a high degree of perfume of various flowers, such as rose, lavender, bergamot, verberna, and in fact about 20 different sorts, which can be used by artists and ladies, for painting, with much gratification, or as a perfume for the handkerchief. Dr. Serny, in his certificate after analysis, states his belief, that the discovery will prove a sure preventive against the common and fatal disease called painters' colic. This beautiful discovery may be considered as a public boon; and we have no doubt the inventor will find this highly useful article appreciated to the full extent of its decisive merits.

Our attention has been called to an entirely new application of wire-work, by Messrs. Allday and Son, of Moseley-street, in this town. An eminent architect having communicated with them as to the necessity of fire-proof ceilings for public buildings, and also as to the possibility of substituting wire-work for the ordinary wood laths, Messrs. Allday and Son directed their attention to the subject, and we understand that many thousands of feet of wire-work supplied by them have been successfully applied to the ceiling of the Chester Lunatic Asylum; we have seen a specimen. The work is done in the ordinary straight manner, with wires about $\frac{1}{8}$ in. apart—the plaster passing so readily through the interstices, as to form an adhesive and serviceable mass on the upper as well as the lower side. The utility of the plan as a precaution against the ravages of fire is at once apparent, and we understand, that although it renders ceilings more durable than those constructed in the ordinary way, the cost is by no means great, or calculated to retard its application. In the case of the Chester Asylum the wire used was galvanised, but in another building of a similar character a different process has been adopted to preserve the wire from corrosion—that of immersing it in a chemical preparation, which has the appearance of black japan. The general practicability as well as simplicity of Messrs. Allday's plan has, we are informed, been recognised by scientific men, and its adoption being unrestricted by any patent right, or registration, further experiments may be made at the discretion of architects or builders.—*Midland Counties Herald.*

FOR INDIGESTION, STOMACH, AND LIVER COMPLAINTS, TAKE HOLLOWAY'S PILLS.—Persons suffering from any derangement of the liver, stomach, or the organs of digestion, should have recourse to Holloway's pills, as there is no medicine known that acts on these particular complaints with such certain success. Its peculiar properties strengthen the tone of the stomach, increase the appetite, and purify the liver. For bowel complaints it is admirable, as it removes every primary cause of them, thereby restoring the patient to the soundest health and strength. Nervous or sick headaches, and lowness of spirits may be speedily cured by taking a course of Holloway's pills.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 14—Carr's Hartley 13 9—Chester Main 13 6—Dean's Primrose 13 6—East Adair's Main 12—New Tanglefield 12 3—North Percy Hartley 13 6—Original Tanglefield 11 6—Ravenworth's West Hartley 13—Walker's Primrose 12—Wylam 13 6—Gibson 14—Horton 14 6—Hilda 14—Horton 14 6—Hildesley 14 6—Killingworth 14—Percy 13 6—Riddell 14—Uppeth 13—Walker 14—Eden Main 15—Lambton Primrose 15—Bell 14—Belmont 15 3—Hutton 16 3—Hawell 16 3—Hutton 14 9—Jonassohn 14 3—Keepler 13—Lambton 15—Russell's Hutton 15—Stewart's 16 6—Whitwell 14 6—Caradoc 15 3—Heugh Hall 14—South Hartlepool 15—Thornton 15—Denison 14 9—South Durham 14 9—Tees 16 3—West Cornforth 14 6—West Hutton 14 9—Cowpen Hartley 13 9—Hartley 13 3—Llangennech 22 6—Sidney's Hartley 13 9.—Ships, 196; sold, 120.

WEDNESDAY.—Buddle's West Hartley 14—Carr's Hartley 13 6—Chester Main 13 6—East Adair's Main 12—Hartlepool West Hartley 13 3—New Tanglefield 12 3—Ravenworth's West Hartley 12 9—Tanglefield Moor Bute's 12 6—Walker's Primrose 12—Russell's Hutton 16—Whitwell 14 9—Caradoc 15 3—Hartlepool 16 6—South Hartlepool 15—Thornton 15—West Belmont 15—Adelaide Tees 15 3—Seymour Tees 15—South Durham 14 9—St. Helen's Tees 14—Tees 16 6—West Cornforth 14 6—Cowpen Hartley 13 6—Hartley 13 3—Howard's West Hartley Netherthorpe 14—Sidney's Hartley 13 6—Whitworth Coke 19.—Ships at market, 120; sold, 68.

FRIDAY.—Buddle's West Hartley 13 6—Buddle's West Hartley 14—Carr's Hartley 13 6—Adair's Main 12—Hartlepool West Hartley 13 3—Hollywell Main 13 9—North Percy Hartley 13 6—Tanglefield Moor 12—Tanglefield Moor Bute's 12 6—Walker's Primrose 12—Belmont 15 3—Horton 14 6—Hawell 16 3—Hutton 14 9—Lambton 16—Morrison 14 6—Hilda 14—Heaton 14 6—Percy 13 6—Riddell's 14 6—Walker 14—Bell 15—Belmont 15 3—Bradley 15 3—Hutton 16 3—Hawell 16 6—Jonassohn's 14 3—Lambton 16—Russell's Hutton 16—Whitwell 14 9—Hartlepool 16 6—Thornton 15—Adelaide Tees 15 3—Seymour Tees 15—St. Helen's Tees 14—Tees 16 6—Cowpen Hartley 13 6—Hartley 13 3—W. Hartley Netherthorpe 14—Sidney's Hartley 13 6—Whitworth Coke 19.—Ships 156.

IMPROVEMENTS IN SMELTING IRON ORE AND MELTING IRON.

[Patented, JOSEPH DEELEY, Engineer and Ironfounder, Newport.—Specification enrolled June 16, 1849.]

The general object of Mr. Deeley's improvements is to supersede the use of blowing machines in the reduction of iron ores and melting of iron, and thereby to facilitate and reduce the cost of these operations. He accomplishes this by constructing the furnace in such manner that it shall, so to speak, be its own blower—auxiliary to which end he employs a new and very ingenious sort of hopper, which feeds the furnace without the usual accompaniment of an inflow of cold air at a point where it is not wanted, and is always more or less injurious.

Fig. 1 is a longitudinal section of a furnace for smelting iron ore, constructed according to this invention. Fig. 2, a vertical section on the line *a b* (looking from the back of the furnace). Fig. 3, a front elevation, exclusive of the chimney, and with the doors of the air-passages, E E, afterwards mentioned, removed; and fig. 4, a top plan of the part from *c* to *d*. A F is the furnace proper, or part appropriated to the fuel and iron ore. It consists interiorly of but one open space from top to bottom, but may be considered with reference to the series of lateral air-passages, E E, and the longitudinal vapour and smoke-passages, B B—which two sets of passages are exactly opposite to one another—as divided transversely into five stories or compartments of gradually diminishing elevation from the bottom upwards, as indicated by the dotted lines, 1, 2, 3, 4, 5. Both sets of passages (E E and B B) have doors or dampers attached to them (with the exception of the lowest of the series, E, which is always left open), and each damper is provided with a weighted chain passing over a pulley, by means of which it may be closed or opened at pleasure to any extent required (one series only of these chains and pulleys is shown in the engraving—namely, those attached to the doors of B B, and which are marked D D). G is the feed mouth, which is made of larger diameter at bottom than at top, in order to increase the gravitating tendency of the materials towards the interior of the furnace (A F); H is a barrel hopper, which is inclosed within two semicircular guards or casings, I, and covers lengthwise the top of the feed-mouth, G, so as to leave as little room as may be for the entrance of air between them. This hopper is suspended from two end axes, or pivots, *f f* (see fig. 4), on which it is free to turn; and it is made of such a form in its cross section, that the space above the axial line is of larger contents than that below it. On the side, which by this arrangement of the axial line must always be thrown uppermost when the hopper is empty, it is left open, and through this open side the fuel and ore are dropped in. As soon as the hopper is filled, or the quantity of materials in the upper portion preponderates over that in the lower, the hopper turns over of its own gravity, and empties itself into the feed-mouth, G, whereupon the hopper immediately returns to its original position, and is ready to receive another charge. The hearth, or bottom of the furnace part (A F), is provided with a dam-fall and tapping hole, K, in the same way as the common blast-furnace, for drawing off the clear metal.

From the preceding description of Mr. J. Deeley's invention, it will be seen, that—by means of the front air-holes, E E, and the smoke and vapour passages, B B, at the back, and the provision made for opening and closing these passages, all, or any of them, and to any extent desired—the heat may be regulated to any degree of intensity, and for any length of time requisite, not only within the entire furnace, but at any particular division or compartment of it. For example, supposing the furnace part to be fully charged, and that it is required in the first instance to diffuse a considerable degree of heat throughout the entire mass, all the front air-passages, E E, are thrown wide open, while the lowest of the doors, or dampers, D D, of the smoke and vapour passages is quite closed, and each of those above it is only partially opened. But afterwards, in order to increase the intensity of the heat towards the bottom, where the ultimate fusion of the metal takes place, the upper doors, D D, are successively closed, or nearly so, and the undermost one, D, which was previously quite closed, is thrown wide open. The smoke and vapours escape from the passages, B B, through the doors or valves, D D, and are conducted by a curved descending passage, L L, into the upright chimney, C.

Fig. 5 is an external side, or end elevation of a pair of furnaces for melting iron for foundry purposes; fig. 6, a transverse sectional elevation on the line *a b*, of fig. 5; and fig. 7, a plan on the line *c d*, of fig. 6.

A A are the two furnaces; one on each side of the common chimney, C. The furnaces are precisely alike, so that a description of one will suffice for both. F is an upright hearth of about 4 feet in length, 3 feet in width, and 4 feet in depth from front to back. On this hearth the fuel is laid. B B are air passages, which are made in the sides of the hearth, and provided with one-way taps or cocks, *c c*, by which they may be opened or closed as required. D is an aperture at the bottom, which is stopped with sand or clay, and E, a tapping hole formed therein, through which the hearth is cleared in the same way as the ordinary cupola furnace. G is an inclined plane or ledge, on which the iron to be melted is laid, and over which the heated vapours ascending from the hearth pass in their way to the chimney, C. H is an arch which subtends in its span both the hearth, F, and the inclined plane, G, and forms the space between G and H into a sort of oven for the heating of the metal. The fuel and metal are supplied from a mouth-piece, L, and barrel hopper, M, of the same description precisely as those employed in the furnace first before described; that is to say, each charge of the hopper, L, consists partly of coke or other fuel, which is placed at the end, which comes immediately over the hearth, and partly of metal, which is placed at the other end, which comes immediately over the inclined plane or ledge, G. M' is a door through which the metal, as it becomes heated upon the ledge, G, is pushed over by a rake, or other suitable tool, into the midst of the burning fuel on the hearth. N is a roadway under the chimney by which access is obtained to the doors, M M', on either side.

Claims.—Having now described the nature of my said invention, and in what manner the same is to be performed, I declare that the improvements which I claim as constituting my said invention, are as follows:—1. I claim the construction of iron ore smelting furnaces, with air, and smoke, and vapour passages, placed, and arranged, and provided with doors (except as before expected) for closing or opening the same, each independently of the others, and with air-tight, or nearly air-tight, supply hoppers, all as before described; but without confining myself to the number of air, and smoke, and vapour passages, represented in the engravings, or to the precise cross-sectional forms given to these passages.—2. I claim the construction of iron melting furnaces on the oven-like form before described—that is to say, in so far as regards the combination of the parts, F, G, H, and M, in the manner shown.—3. I claim the application of the said oven-like form of construction to all ovens and furnaces to which the same may be applicable.—And 4. I claim the employment in ovens and furnaces of barrel-hoppers, constructed, applied, and worked in the manner before described.—*Mechanics' Magazine.*

Fig. 4.

Fig. 1.

Fig. 3.

Fig. 2.

Fig.

Fig. 6.

Fig. 7.

A Letter to the Members of the Peace Society. By the Hon. and Rev. A. P. PERCIVAL, B.C.L., one of the Queen's Chaplains. London: Parker, Furnival, and Parker, Whitehall.

This little pamphlet of 16 pages contains suggestions for forming among the maritime nations of the world a union similar to the independent Hanseatic league—having in view the extension of commerce and civilisation among men, and the substitution of commercial interdict, requiring international arbitration, instead of war, as the means of preserving the peace of the world. Although somewhat Utopian in his ideas, we have no doubt the reverend author is actuated by the best motives; and we principally notice the publication from the means he recommends to be adopted towards Ireland, as an experiment for future international government and commercial improvement. He takes Ireland as in its present condition it cannot be rendered worse, it would be a safe arena for a new principle. He proposes to abolish at once customs and excise; and, in lieu of these incomes, substitute a per centage on net profits of all descriptions. By a registration per head per annum, encourage the naturalisation of foreigners. Establish chambers of commerce for the regulation of trade, management of local affairs, and public works. Divide Ireland into 120 districts—30 for each province. Each district to return one member to a house of representatives. Every individual, rated to tax on profits, to have a vote in such representation, from which number the Crown to select 40, to form an upper house, with a variety of minor details, conceding, if carried into effect, almost the points mooted in what has been called the people's charter. In a commercial view, he proposes to make her southern and western coasts the fuelling and victualling depots for all merchant vessels traversing the Atlantic; that as the land in these localities may be had at a very small price, British, Dutch, and Holstein graziers should purchase largely, and bring to bear upon it the most improved methods of cultivation to the growth of cattle, and maintain stores of cured provisions at the most accessible ports. That British and Swedish miners purchase some of the best coal, peat, and mineral districts, and bring to bear upon them the best appliances that human skill and science have yet invented for extracting the riches of the earth; and that British, Dutch, and American engineers be employed to render navigable the noble rivers of the country, especially those which lead from the chief coal-fields to the coast, as the Blackwater to Youghal, connecting that with Cork Harbour by a canal through Middleton and the King's River, the Nore and the Suir to Waterford. He further recommends to turn to good account the vast water-power of the country, the erection of mills at the falls, where American and Egyptian cotton may be manufactured, and the distance between Galway Bay and Manchester be saved; while Australian wool might be converted to use by similar means.

GAS FROM WATER.—Mr. Stephen White, the patentee of the hydro-carbon gas, delivered a lecture, on Wednesday week, descriptive of its manufacture and advantages, in the Queen-street Hall, Edinburgh. He commenced by explaining the ordinary method of manufacturing coal gas, and then proceeded to describe that from water; for this purpose he fill his retorts with a quantity of charcoal and scraps of iron, which were brought to a bright red heat, and water allowed to fall drop by drop into it, by which the carbon and the iron took up the oxygen, and the hydrogen gas was set free; in another retort he decomposed resin, tar, or some other cheap hydro-carbon, by passing it among iron chains, and every 1000 feet of gas fit for brilliant illumination was composed of 500 feet of pure hydrogen from the water, and 500 feet of the carbonated hydrogen from the tar or resin. He then referred to the cost, and stated that he had agents in America and Russia, who had engaged to supply him with resin, however large the orders might be. At present its cost was about 3s. per cwt., and 1000 cubic feet of gas required 25 lbs. of resin, 13 lbs. of water, and a quarter of a bushel of charcoal, costing 9d. The iron was more valuable when taken out of the retorts than before. He had, therefore, no hesitation in saying, that the hydro-carbon gas could be made on a large scale anything above 300,000 cubic ft. per day, at about 1s. per 1000 ft. He stated that, in case of an escape, this gas was much sooner detected than that from coal; the heat of the flame was similar, but the light whiter and more brilliant, and 30 per cent. more intense in illuminating power. Nine thousand feet of coal gas cost for materials 18s.; while the same quantity could be made by his apparatus for 7s. 6d., and while gas works only sufficient for such quantity in a given time would cost 3000*l.*, his would cost only 1000*l.* The lecture, which was numerously attended, was illustrated by diagrams and brilliant illumination, and it was stated that the gas might be seen in operation on a large scale at the Panmure Foundry. A vote of thanks was unanimously passed to the lecturer.

SOLUBLE GLASS.—What is called soluble glass is now beginning to come into use as a covering for wood, and other practical purposes. Some of our clever artisans may like to experiment upon it. It is composed of 15 parts of powdered quartz, 10 of potash, and 1 of charcoal. These are melted together, worked in cold water, and then boiled with 5 parts of water, in which it entirely dissolves. It is then applied to woodwork, or any other required substance. As it cools it gelatinises, and dries up into a transparent colourless glass, on any surface to which it has been applied. It renders wood nearly incombustible.—*New York True Sun.*

Transactions of Scientific Bodies.

GEOLOGICAL SOCIETY.

JUNE 13.—Sir C. LYELL (President) in the chair.

"On the Valley of the English Channel," by R. A. C. Austen, Esq. The English Channel occupies a valley, which may be described as one of depression between two parallel systems of elevation. This is shown by the dip of the secondary strata on either side being towards its centre. The epoch of this depression will depend on the age of the deposits included in it, which show that it has been under water at many distinct periods. When the submarine forests, seen on many parts of the coast, grew, it must, on the other hand, have been at a higher level; and hence Mr. Austen infers that it was dry land during the whole period of the coralline and red crag formations. These ancient forests not only pass below the present sea, but are covered by other formations, known as raised beaches. The materials spread over the bed of the Channel seem chiefly derived from the coast line. For the first few fathoms' depth the sea-bed is constantly changing; and the author has seen almost every portion of the south coast in the condition of sand, gravel, or bare rock, at different times. In consequence of the prevailing direction of the winds, the shingle moves constantly from west to east—some pebbles found in the Chesil bank being derived from rocks not found nearer than Torbay.

On the other hand, the raised beaches on the coast of Cornwall contain many chalk flints, which can only have come from the east. These seem to have been carried westward during the pleistocene period, when the last depression of the Channel took place, connecting it with the Northern Ocean area, when also blocks of northern rocks were carried south into it, like those found on the coast of Sussex. At that time, however, the Wealden was dry land; and the northern drift, which may be traced into the valley of the Thames, thins out and disappears before reaching it, as is well seen in the Reading and Reigate Railway cuttings. The west of England seems also to have been above sea at that period, though divided from the Weald by a strait. These tracts are distinguished by east and west axes of elevation; and the same system prevails in South Wales and in the south of Ireland—neither of which districts appear to have been submerged at that time. The depth to which the abrading action of the waves, caused by winds, extends is not more than 40 to 50 ft. The tidal currents reach much deeper, as shown by the rippling of the surface over banks and shoals, with a minimum depth of 40 to 45 fms., and over the Sole Bank at 80 fms., where the water is broken, even in the calmest weather. To this motion the distribution of materials over the sea-bed is owing. These, as shown in a coloured map of the Channel, are carried outwards from the shore, and become finer as the distance and the depth increase. The bearing of this on geology is obvious—the sedimentary rocks now exposed being merely the aggregates of the soundings of ancient seas. The present deposits also increase horizontally and not vertically; so that they do not fill up the sea, or diminish the depth shown by soundings.

In conclusion, Mr. Austen referred to the sudden increase in the depth of the sea, as shown by soundings beyond this line of 200 fms. On losing the bottom with a line of this length, 400 fms. often fail to obtain soundings. This remarkable line of sudden depression he considers to have formed the coast line of an old continent belonging to the middle tertiary period, which attained its maximum elevation in the interval between the pleocene and pleistocene marine beds.

INSTITUTION OF CIVIL ENGINEERS.

JUNE 26.—JOSUA FIELD, Esq. (President), in the chair.

The paper read was "Observations on the Obstructions to Navigation in Tidal Rivers," by Mr. J. T. Harrison, M. Inst. C.E. The first part of the paper treated, in a general manner, of the circumstances affecting the deposition of materials and the action of water upon them; and in the latter part an application of these circumstances was made, in explanation of the formation of obstructions existing in the bed and at the entrance of tidal rivers.

Under the former head, the materials forming obstructions were first examined, the places whence they were derived, and the causes affecting their initial removal; cohesion, friction, the specific gravity and size of the materials, were shown to affect the question of their motion. The action of water upon these materials formed the latter part of the subject. Under this head, the character and effects of pure stream motion and forced motion, in the form of a pure wave of translation, and of standing waves, were severally considered. It was shown, that during pure stream motion the water had the greatest velocity where the channel was deep; that curves in the channel gave rise to increased depth and velocity; and an explanation was given of the deposit of materials by the water after leaving a curved channel; that the effect of a pure wave of translation was to scour the shallows and deposit the material in the deep; and, as its momentum was destroyed, to heap up a bank rising gradually. The effect of standing wave motion of water was shown to be the formation of a succession of deeps and shallows.

Under the latter head, the first division treated of the action of river water—1st, in its own channel, when the subject of impediments, as piers of bridges, weirs, &c., was examined; 2d, where it discharged into a large basin devoid of tide, under which head the formation of deltas, &c., was discussed; 3d, when the basin into which it flowed was subjected to a rise and fall of tide, but without perceptible current.

The second division treated of the action of the sea without the entrance of the river. Attention was drawn to the effect of the situation of the entrance, with respect to the direction of the tidal wave. It was shown, that, in some cases, part of this wave set directly up the river, as in the case of the Severn, &c. As a branch of this subject, the peculiarities of the tidal action, described in a communication to the Royal Society by Captain Beechey, as existing in the Irish Sea, were commented upon, and an explanation offered of some of them. In other cases, the tidal wave setting at right angles to the direction of the river, when the wave which passed up it was generated at the entrance. The deposition of materials near the mouth of rivers by along-shore currents, and by the wind-waves, was then briefly touched upon.

The third division treated of the action of the water in entering rivers so placed, that the wave was generated at the entrance. The circumstances which affected the quantity of water entering were considered; it was shown to be limited by the width and depth of the entrance, and the rise of the tide; and, again, by the degree of freedom with which the momentum generated is transmitted. It was also shown that this freedom of transmission depended chiefly on the depth of the water; and other circumstances affecting it were explained.

Under the fourth division, the removal of bars by the ebb tide was discussed, and the propriety of the water having a free motion, and not being forced over the bar, was shown. It was argued, that bars are frequently increased by a narrow or shallow channel at the entrance causing a head of water, and the consequent formation of a standing wave between it and the bar. The deeper the channel could be maintained, and the further the water could be made to flow up it, the better would be the effect of the ebbing waters upon the bar. It was shown that the deep water found within the entrance of many rivers is caused by the flood tide, and that an improvement in the bar would, probably, have the effect of lessening this depth, which, in many cases, would be considered a disadvantage.

The fifth division treated of the effect produced on the bed of the river's channel. The difference in the motion of the water on the flood and ebb was shown. When the tidal wave was oscillatory at the entrance, the tendency of the tidal action was to draw out to sea the material lying in the bed of the channel at the entrance, and to heap up sand-banks in the upper part of the estuary. When the tidal wave was generated at the entrance of a bottle-necked estuary, the formation of sand-banks within the entrance, with the false channels which accompany them, was explained as being the result of the flood tidal action. The effects produced by the ebb tide were shown to be generally similar to those described as produced in rivers proper.

The sixth division drew attention to the remedies necessary for preventing obstructions; and to that end it was urged that the sources whence the materials are derived should be first attacked; the possibility of checking the progress of shingle along the coast towards the mouths of rivers, and its entrance when there, as well as the washing down of the detritus from the upper part of rivers, was discussed; and it was agreed that much might be done by groyning the coast, carrying out piers at the entrances and in the upper part of the river, by groyning the banks in some places, and allowing a free scope for the deposit of the material which is being washed down in others. The subject of piers at the entrance of rivers was then more fully entered into, and the effects produced by their being built too close together and curved were discussed. Some points which it seemed desirable to attend to in fixing the lines for confining rivers, were generally considered; and the paper ended with the expression of a hope that it might lead to discussion, and a further collection of facts, upon which alone any sound theory can be founded.

After the meeting, Mr. F. A. Carrington exhibited in the library a beautiful model, in relief, of portions of the counties of Lancaster, Yorkshire, Cheshire, North, and Derbyshire, extending from Manchester to Lincoln; and the Humber, east and west; and from Leeds and Bradford to Chatsworth Park, north and south. These models show at a view the whole physical geography of a district, and are admirably calculated for projecting works of both civil and military engineering; and if they were a step in the sanitary improvements of towns, the progress would be more certain, and less costly. At the monthly ballot, Messrs. E. L. Betts and W. Coulthard were elected associates; and the meeting was adjourned until the commencement of the next session, which it was proposed should be at an earlier period than heretofore.

AYRSHIRE IRON COMPANY.—The Blair Iron-Works were again exposed to public sale on the 13th inst., in the Exchange Sale Rooms, Glasgow, at the upset price of 45,000*l.*; but, after the reading of the articles of sale, which occupied fully half-an-hour, there was not a single bidder present, and consequently the roup was adjourned.

Law Intelligence.

TRANSFER OF MINING SHARES—STAMPS NOT REQUISITE.

COURT OF EXCHEQUER, JUNE 23.

(Sittings in Banco.—Before Barons Alderson, Parke, Rolfe, and Platt).

TOLL v. LEE.—This was an action tried the 30th of March last, before Lord Denman, at the Bodmin assizes. The plaintiff was Mr. James Toll, a timber merchant of Callington; and the defendant was Mr. John Dunkin Lee, a sail-cloth and sack manufacturer, living in Leadenhall-street, London. The action was brought to recover the sum of 31*l.* 8*s.* 11*d.*, for timber supplied to Wheal Mary Mine, in which the defendant was an adventurer at the time of the supplies, in October, 1845. The mining company in question was formed on the Cost-book System, and, in September, 1845, defendant accepted a transfer of some shares in the mine, which transfer was certified in the usual manner to the purser, and by him registered in the book of the mine. In the course of the year 1845, it became necessary to sink a shaft, and timber for the purpose was ordered of the plaintiff, of which there was supplied by him, in the month of October, 1845, after the defendant became a shareholder, to the value of 31*l.* 8*s.* 11*d.*, including a small charge for carriage. In December, 1845, there was held, in London, a general meeting of the shareholders, at which the defendant was present, and took part in the proceedings. Afterwards, when it became necessary to give up the working of the mine, the shareholders were severally called on to pay their proportions of what was due to tradesmen who had sent supplies to the mine. Several of the shareholders did pay their proportions; and had the defendant chosen to do the same, the tradesmen would have been satisfied. To show that the defendant had had an opportunity of settling his arrears, a letter was addressed, on the 12th Feb., 1846, to him by Mr. William Snell, a relative of the purser, employed by him to settle the affairs of the mine. In this letter defendant was informed, that there was due by adventurers in the mine, to bankers, merchants, and others, upwards of 837*l.* In consequence of many of the shareholders having become bankrupt and insolvent, and others dead, there were only 23*l.* shares in solvent hands. His proportion on 16 shares would be 25*l.* 13*s.* or 1*l.* 12*s.* per share; this he was requested to pay, or inform Mr. Snell of the name of his attorney, so that he might send process for entering an appearance. To this letter defendant replied, that he should be glad to pay his share of any outstanding claims against Wheal Mary, upon the accounts being audited by those gentlemen who had the management of that mine in London. Among the pleas put in by the defendant, was one, that other shareholders had been called on to pay their proportions, that one of them had come forward and done so, and that that payment was in discharge of the whole. But the fact was, that another shareholder, whose name was Saunders, was sued in the same way as the other shareholders, and knowing he had no defence, he came forward to pay his proportion, and it was agreed that, on his paying what was due from him on call, the action against him should be discontinued, and the amount actually paid by him (10*l.*) should be taken on account of what was due to the plaintiff. At the trial, the purser produced the register of the shareholders, of which he had the custody, in which was the name of the defendant entered by witness, at the time of the transfer, which was signed by the defendant, and was of the following tenor:—

"To Mr. George Wells Snell of Callington purser of Wheal Mary Mine in the parish of Calstock

"I Ebenezer Lethbridge for the consideration named and expressed in a Deed of Transfer bearing date the 29th of September do hereby certify that I have assigned sold and transferred to Mr. John Dunkin Lee three hundred and fifty-six parts or shares of or in the mine or adventure called Wheal Mary situate in the parish of Calstock in the county of ——— with the like part or share of and in all engines tools tackle materials ores halvans monies in the purser's treasury and banker's hands and all other the appertinences to the said mine or adventure belonging together with all and singular the dividends to be henceforth declared and payable upon or in respect of the said part or share and all interest profit right privileges and advantages whatsoever incident thereto or to be derived therefrom and all the estate right title and interest of me the said Ebenezer Lethbridge in and to the same three hundred and fifty-six parts or shares belonging to hold unto the said John Dunkin Lee his executors administrators and assigns subject to the same rules orders and restrictions and on the same conditions as I held the same immediately before the execution hereof

"Witness to the signature of the above-named—J. J. HAYS

"I the said John Dunkin Lee do hereby agree to accept and take the said shares subject to the same rules orders restrictions and conditions. Witness my signature this 25th day of September one thousand eight hundred and forty-five

"Witness to the signature of the above-named—J. J. HAYS

"On the part of the defendant, counsel objected to the stamp of the transfer, which was a 2*s.* 6*d.* one—the document, being an assignment of a share in the mine, required a larger stamp. The counsel on the other hand contended that the document was not an assignment of a share, but only a certificate that a share had been assigned by deed. On the part of the defendant, it was argued that the real question was, whether this claim had not been discharged by what had taken place in the action-brought by Toll against Saunders. Lord Denman reserved the point on the legal construction of the words at the close of the receipt to Saunders, directing a verdict for plaintiff for 31*l.* 8*s.* 11*d.*, with 40*s.* costs, with leave to enter a verdict for defendant, should the effect of the receipt be such as had been contended by the defendant's counsel.

Mr. MAYNARD (with whom was Mr. Crowder) showed cause against the rule. There was abundance of evidence that the defendant was a shareholder; he had attended the meetings, which in railway companies had been found sufficient to fix the liabilities on parties so attending. On being applied to by the solicitor he had agreed to pay his quota on 16 shares; at the eleventh hour he had refused, on the pretence that the transfer had not been duly stamped. The learned counsel quoted the cases of Slattery v. Pooley and Ashwell v. Hardy. This was not an assignment of a share, but a certificate that a share had been assigned by deed. Mr. Baron Rolfe, in the case of Peachey v. Westbrook, had stated that such a letter would be evidence as a deed; in the conveyance of a mine, which was land, it required a deed, but an interest in a mine was not an interest in land. In the case of Mayfield and Robertson it had been proved that a conveyance of goods was exempt from stamp duty.

Mr. MONTAGUE SMITH (with whom was Mr. Cockburn), in support of the rule, argued that the letter to the purser proved that there had been transferred certain shares in the Wheal Mary Mine for a consideration named in a deed. From this it would appear that this had been done to evade the Stamp Laws; if a 2*s.* 6*d.* stamp could be used instead of a 30*s.* one, which would have been the legal one in this case—it would cause a material difference in her Majesty's revenue. This mine had been at work on the Cost-book System, and the transfer required to be legally executed to be entered on the cost-book, before the shareholder could have any legal claim on the profits of the adventure.

Mr. BARON PARKE observed, that a mining adventure was considered as a trading concern. It appeared that the custom was, that certain parties took a lease of the mine from the lords, and held the sett in place of some others. In the case of the Chelsea Water-Works, which had been tried before him, it had been proved that the corporation had the right to the land, and the shareholders only to the profits. In the certificate which transferred the shares to the defendant, no land which would have required a deed was assigned, but merely the goods on the mine.

The other judges having concurred in Mr. Baron Parke's opinion, Mr. MONTAGUE SMITH stated that he should not trouble their lordships with any further arguments in support of the rule.—Rule discharged.

MINING COMPANY OF STOLBERG.—At a general meeting of shareholders in this company, held at Aix-la-Chapelle, it was stated that, up to the time of the Prussian revolution, the directors had depended on the principal French shareholders for three-fourths of the capital. They had, however, like other parties in industrial enterprises, been disappointed, from political changes, and the shareholders have for the past two years been deprived of their dividends. From the several reports presented at the meeting, the truth of which is attested by several shareholders who visited the mine in person, it appears that the suspension of dividends is not to be attributed to a falling off in the value of the property or of the production of lead, which is daily being developed more considerable in quantity and quality, and which promises the company that the elements of success are present. But at the moment of the revolution they were burdened with a heavy stock on hand, while business was at a stand, and they had still to keep up their payments. The shareholders may rest assured that the enterprise is founded on a firm basis, and that the best order and regularity exists in all the branches of this great undertaking. The meeting came to the conclusion that several modifications were required in the regulations of the society; but their consideration was adjourned to a future special meeting, to be convened for that purpose. Messrs. Munier and Rambaud were elected directors in the places of Messrs. Chavanteau and Gouin, who had resigned.

MINING.—In the present, we hope temporary, depressed state of mining in Cornwall, it affords us pleasure in knowing that there are individuals amongst us who not only look forward with confidence to better times, and in that hope continue the workings of old bails which, with a fair price for tin and copper, would yield good dividends, but also experience sufficient confidence and speculative spirit to induce them at this moment to embark in new undertakings. On Thursday last, a party of gentlemen met at the Three Tuns Hotel, when it was resolved that Wheal Conqueror should be immediately set to work. This mine is situated in the estates of Nantcothan, in the parish of Madron, and Bologas, in the parish of Paul, and was formerly worked to advantage, having yielded large quantities of tin. The mine is divided into 156 shares, nearly all of which are already taken up. We understand that the water will be drawn out of the shaft at the eastern end of the sett by means of hand pumps, it being only 16 feet deep, and tin can be broken as soon as the water is out. An adit will be driven on the course of a lode, in the western part of the sett, where tin is apparent, and it is calculated that for 10*s.* per share—which amount has been deposited with the purser, Mr. Rodda—it will be possible to ascertain whether it will be prudent to erect a water wheel and stamps, with which the mine may be carried to 30 fathoms, and the stuff stamped at a cost, in machinery, of about 100*l.* The adventurers have our best wishes for their success.—*Pennance Jour.*

Mining Correspondence.

[The Commissioners of Inland Revenue having notified to us their resolve to charge with advertisement duty all reports having the agents' names affixed, we appealed to them in a memorial, setting forth that we, or the respective companies, derived no advantage therefrom—the only object sought, or obtained, being that of affording to the mine adventurers and public the greatest guarantee we could for the truth and bona fide nature of the statements periodically set forth, by authenticating them, and thus fixing a responsibility on the writer. The Commissioners have replied, that "the reports, with names attached, are advertisements, and that duty will be charged thereon." We have no alternative but submitting to their dictum. How far the Commissioners are correct in the view they take, our readers can judge as well as ourselves;—we can but hope that, on reflection, they will see the error into which they have fallen, and rescind the orders they have issued. All reports inserted under this head, however, may, as heretofore, be considered as furnished by the regular agents of the company; and we shall carefully guard against the publication of statements which cannot be relied on as correct.]

BRITISH MINES.

ALFRED CONSOLS.—The lode in Field's engine-shaft, sinking under the 30 fm. level, is quite 6 ft. wide, and the ore coarse, on the south part, in the east end of the shaft, is about 3 ft. wide, and in the west end 1 ft. looking very pleasing, and improving as we get deeper. The lode in the 50 fm. level, east of the shaft, has improved this week; there is now in the end a branch of saving work for copper ore 1 ft. wide, which is very promising; and, in the 50 fm. level, west of the engine-shaft, a great change is taking place for the better; the lode is about 3 ft. wide, and on the north part is a good branch of copper ore; the size I can hardly say, as there is a part of the lode standing, but this much I can say, that the appearances have not been such for the last 12 months as they now are. The lode in the 40 fm. level east is 3 ft. wide, containing small stones of copper ore, and in driving south in the 40 fm. level, west of the engine-shaft, we have not yet cut any lode.

BARRISTOWN.—The lode in the end, driving on the junction in adit level is 3 ft. wide, and producing 1 ton of lead per fm. The lode in the bottom of adit level (eastern slope) is producing about 1 ton of lead per fm. The back of the 16 fm level is poor; also the slopes in the bottom of the 16 fm level; the end we drove west in the 16 fm. level is poor also; there is no lode in the winze sunk under the 16 fm. level, it is cut off with a similar slide to what we had in the old mine, and I consider it likely that the other part will be found under the part we have been working away. At Nangle's we discovered a good pipe of ore in the base of the adit level, which will produce about 1 ton of ore per fm. We shall ship a cargo the week after next.

BEDFORD UNITED.—At Wheal Marquis, the ground in the cross-cut and engine-shaft remains the same as last reported. Having met with one or two accidents viz.: breaking of the rods, &c., at surface, our progress in the engine-shaft has not been so satisfactory as I could have wished. We are still driving by the side of the lode in the 90 fm. level; Burley's winze, in this level, is about 11 fms. deep, the lode will yield 3 to 4 tons per fm.; in Crew's winze, in this level, the ore part of the lode is 18 in. wide, and worth 3 tons of ore per fm. The lode in the 70 fm. level (but partly laid open) is composed of fluor-spar, mundle, with spots of ore.

BRYN-AR-Idan.—The lode in the engine-shaft is large, from 6 to 7 ft. wide, composed of killas, spar, and several small branches of ore, yielding 10 cwt. of ore per fm. The slope back over the deep adit level, east from the shaft, is producing a ton per fm. The slope east from the winze, back of this level, 15 cwt. per fm. The slope back to the 10 fm. level, 17 fms. west of the shaft, 10 cwt. per fm. The slope in the bottom of the old men's workings, in the shallow adit level, rather improved, now producing 15 cwt. of ore per fathom.

CWM ERFIN.—In consequence of the dryness of the weather, our 20 fm level at the engine-shaft is now under water, and, therefore, the bargains in this place are suspended. The winze sinking under the 10 fm. level, 12 fms. long, is worth 15*l.* per fm. The 20 fm level, west of the winze-shaft, is worth 5*l.* per fm.; the 20 fm. level, east of ditto, is poor. The winze, sinking under the 10 fm. level, east of winze-shaft (for 2 fms. long), is worth about 8*l.* or 10*l.* per fm. Our dressing is nearly brought to a close, not having water to crush more than three or four hours per day.

DALWIN.—The lode in the deep adit, east of the Rhy-a-neat river, is 4 ft. wide, and has a very kindly appearance.

DEVON AND COURTENAY CONSOLS.—In the end driving west, in the 40 fm. level, the lode continues large, full 4 ft. wide, containing a great quantity of white iron, prun, and some mundle, with stones of rich coated ore in various places in the lode. In the end driving east, on the south lode, in the 50, the lode is 2 ft. wide, composed of capes, spar, and mundle, and some good stones of ore, but the lode appears to be somewhat disordered by the small cross-cut recently discovered in the end. The lode in the slopes, in the back of this level, continues to yield about 1 ton of ore per fathom.

EAST CROWDALE.—The lode in the 28 fm. level east is at present poor and not very kindly in appearance; it is about 2 ft. wide, composed of spar, white iron, mundle, and killas; we broke some good stones of tin in this level in the beginning of the week, but it has not held on; the 28 fm. level east is looking much kinder, although not rich; the lode is 5 ft. wide, composed of peach, spar, white iron, mundle, and spots of tin. Williams's winze, below the adit level, still continues to look well; the lode is about 9 ft. wide, composed on the north side of white iron, and mundle; the middle part tin and peach; and the south side tin, killas, and mundle, worth good, per fm. from the appearance of the lode at present in the winze, I believe the tin in depth will be more concentrated, and the lode get into a more settled condition, and smaller in size. Tippet's slopes, in the back, has produced some excellent work in the past week, but the lode is at present much mixed up with killas—it is worth about 30*l.* per fm. Paul's rise and slopes in the back are looking very kindly, the lode is about 6 ft. wide, composed of gossan, spar, peach, mundle, and tin, and produces about 25*l.* worth of tin per fm. Our engine, stamps, &c., all in good working order.

ESGAIR LLI.—The south lode, in the slopes in the bottom of the deep adit level, east of the engine-shaft, is much the same as last reported, which will yield on an average about 10 cwt. of ore per fm. The north lode, in the deep adit east, is much the same as last reported, producing a little lead, and last very promising appearance, but the most of the water is now coming down a few feet behind the end. The bottom water is quite gone from the winze, but there is still a little water from the country, and the lode above, which cannot be taken up. We have finished dressing the lead raised previous to my coming on the mine, and have commenced dressing the new work.

EXMOOR WHEAL ELIZA.—The alterations of the machinery, which were contemplated at the last meeting of shareholders at Tavistock, having been duly effected, although it caused a little delay, yet it has already proved a satisfactory improvement; the engine can keep the water without any strain or difficulty at present, whereas before she could scarcely keep it at all. We resumed our underground operations on Monday last; the caunter lode is about 3 ft. wide, of the most inviting appearance; we are driving north to intersect the great north lode, which will be done with all possible dispatch.

HEIGNSTON DOWN.—The sinking of Bayley's shaft is progressing satisfactorily. The lode in the 38 fm. level, east of said shaft, is composed of gossan, peach, and spar, of very promising character; but as yet have not reached the north wall. The shaft also progresses satisfactorily, the lode being composed of gossan, peach, soft spar, and quartz, with good stones of ore in places, and being altogether a very promising lode.

HERODSFOOT.—The engine-shaft is sunk 8 fms. below the 106 fm. level, where the lode is 4 ft. wide, yielding 1½ ton of ore per fm. In a winze sinking below this level, 20 fms. south of the shaft, the lode is 3½ ft. wide, producing ½ of a ton per fm.; in the south end the lode is 2 ft. wide, yielding 5 cwt. per fm.; in the north end no lode has been taken down since our last report; the slopes in the back yield, on an average, 9 cwt. per fm. In the 94 fm level south the lode is 2 ft. wide, yielding good stones of lead; in the north the lode is large, producing 15 cwt. per fm. In a winze, sinking below this level, 20 fms. north of Winder's shaft, the lode is 2½ ft. wide, producing 7 cwt. per fm.; the tribute pitches in this level are looking well. In the 82 fm level south the lode is 2½ ft. wide, yielding above 1 ton per fm.—greatly improved these last few days. In the north the lode is 9 in. wide, yielding ½ of a ton per fm. The slopes in this level, near Winder's shaft, yield, on an average, ½ of a ton per fm. The slopes near the north end yield 7 cwt. per fm. The slopes in the back of the 73 fm. level, near Winder's shaft, are getting rather poor; the lode in the south end is still disordered by a slide. The parcel of ore for May will be about 95 tons.

HOLMBUSH.—The lode in the 132 fm. level, west of the diagonal shaft, is 10 in. wide, composed of spar, mundle, and spots of ore, in this level being under the winze sunk below the 130, we have set the men to rise to communicate to it. The lode in the 120 fm. level south is 4 ft. wide, composed of quartz and lead, saving work; in driving the 120 fm. level south, east of Hitchen's shaft, we have intersected another branch, ½ in. wide, composed of mundle and rich copper ore; we shall extend the cross-cut a little further south, seeing water is still issuing from the end. In the 120 shaft, close by the great cross-course, towards the flap-jack lode, we have very favourable ground, and we hope to drive 9 fms. this month. The lode in the 110 fm. level south, in the 110, we have taken down the flap-jack lode in the 100 fm. level, east of the great cross-course, and find it reduced in size and value; in the present end it is 15 in. wide, producing stones of ore only, making still a good foot wall. The lode in the back of the level will produce 4 tons of ore per fm.; a cross branch at this point has disordered the lode; the ground is still favourable, and we shall push on the level as fast as possible, hoping to meet with a speedy improvement.

KIRKCUDBRIGHTSHIRE.—The lode in the 50 end east is 4 ft. wide, composed of spar, carbonate of lime, and lead, yielding 5 cwt. to the fathom; the lode in the 50 end west is 4 ft. wide, yielding 7 cwt. of lead to the fathom. The lode in the 40 and west is 18 in. wide, with good spots of lead; the lode in the winze, in the bottom of the 40, west of Kellie's, is 2½ ft. wide, worth 4 cwt. to the fathom; the lode in the 40 winze east is large and unproductive. We intend to ship a cargo of lead again on Monday next.

LAMHEROE WHEAL MARIA.—The engine-shaft is sunk 5 fms. below the 50 fm. level, and has just intersected the great cross-course, underlying 4 ft. in the 50, which will soon pass through the shaft, and expect it will leave the lode. Should the lode be here, we shall be in a better position for sinking. Davy's shaft will be down 45 fms. by the end of this week. We are making every exertion to hasten the sinking we possibly can; the men are even working Sunday nights.

LEWIS.—The lode in the 70 end east is 2½ ft. wide, unproductive at present; the 70, east of engine-shaft, on the south branch, is worth 15*l.* per fm.; the slopes in the back of this level are worth 15*l.* per fm.; the 70, east of Ladder-road winze, on the south branch, is worth 10*l.* per fm. The 60, east from sump-shaft, on the south branch, is worth 12*l.* per fm.; the winze sinking under the 60, on the south branch, is worth 25*l.* per fm.; the lode in the 60 east, on Cock's branch, is 1 ft. wide, worth 20*l.* per fm. The 50, tin; the winze sinking below the 50, on Cock's branch, is worth 6*l.* per fm. The lode in the 40 east, east of copper cypress, on Cock's branch, is worth 3*l.* per fm.; the 40 east, on Cock's branch, is opening good tribute ground. The lode in the 30 west, on south branch, is worth 3*l.* 10*s.* per fm.

MENDIP HILLS.—In Charterhouse Valley a slight improvement is perceptible in the beds of slagstuf, which we are at present removing to the dressing-floors. I find it will average about 15 ft. thick, yielding a fair quantity of very good slag. We have a large pile prepared for the furnaces; I should say sufficient to produce near 3 tons of lead, which I propose smelting during the present week. In Ubley and Blackmoor we continue to press forward with our works as fast as possible; the masons are getting on with the engine house; I hope to see the walls completed by the end of the week; the boiler is already fixed in its place, and the other machinery will, I expect, be here shortly. In my last report I stated we had just commenced making a cutting, for the purpose of reaching the bottom of Blackmoor, in doing which it affords me much pleasure to inform you that we have cut into a bed of original slag, which far exceeds anything we have before seen; in fact, it will require but very little cleaning, being almost in a fit state for the furnaces when taken from the valley. I have made an assay of the slag, and find it contains 50 per cent. of metal. We have excavated the foundation, and the

miners have commenced building the reverberatory furnace; the site selected for the furnace is near our old ones.

MINERAL COURT.—The engine-shaft is completed to the 20 fm. level, and we have this morning cut into the lode, which is 5 ft. wide at that depth; for the first 2 ft. it is hard, then for 3 ft. more it is good for tin, and we believe we have now got the south wall of the lode; so far as we have seen, it is a very promising lode indeed, much better than we expected to find it close to the shaft, for it is not so productive as near the shaft in the level above. I consider that we have a mine that will make good in depth and extent; the tin continues to be of a superior quality, and is equal to what we had in the upper level. We shall proceed to cut a winch pit in the 20 fm. level, and then drive east and west at that level, which will open ground for tribute pitches. At our setting for July we intend to drive the 8 fm. level east, to open more tribute ground also in that level. We shall also sink a winch below the 8 fm. level in the run of tin, which will ventilate the 30 fm. level. I confidently expect, as soon as the levels are driven to a moderate extent, we shall make good monthly returns of tin; and I may add that my expectations of the productiveness of the lode in the 30 fm. level are fully realised.

NANTY-CRUA.—The new lode in the shallow adit level is looking more kindly than for the last 5 or 6 fms. in driving, and I think will soon improve.

SOUTH WHEAL TRELAWNY.—The engine-shaft is in course of sinking with nine men, sunk below the 30 fm. level. In the 9 fm. level the ground is favourable, and the water just as last mentioned; the engine continues to work well.

TRELEIGH CONSOLS.—Garden's shaft, below the 113, sinking in the country. In the 90, west of ditto, lode 2 ft. wide, worth 47.41 fm. In the rise above the 80, lode 2 ft. wide, with stones of ore. The 80 cross-cut north is driving in the country to the north part of the lode. The 30 cross cut is driving from Parent's engine-shaft in the country towards the lode. In the 20, west of Parent's engine-shaft, the lode is 1 ft. wide, with stones of ore. The 20 cross-cut, south of ditto, is suspended for the present, the men being now employed in sinking a shaft below surface to communicate with the rise above the adit, on the middle lode. In Parent's winch-shaft, below the adit, the lode is 2 fm. wide, with stones of ore, and is looking kindly; in the winch below the adit, on the middle lode, lode 1 ft. wide, with stones of ore. In the rise above ditto the lode is 20 in. wide, worth 41 fm.

TYWARTHAYLE AND NANCEKEUKE.—Gardiner's engine-shaft is sinking under the 90 fm. level; it is down about 8 fms.; the lode is standing to the south, and has not been cut through under the 90 fm. level; there are 12 men in the shaft, and they are sinking about 6 ft. per month; in three or four months it will be down to drive a 100 fm. level. The 90 fm. level is driven east of Gardiner's shaft 15 fathoms, through a large lode; the end is now producing 3 tons of ore per fm. The 80 fm. level, driven by 16 fms. east of Bennett's shaft 90 fms., and there has been some good ore ground discovered by driving this level. The 50 and 40 are not so far east. A great improvement has taken place in this part of the mine, and it is promising to make large returns. Gardiner's railroad shaft has been sunk to the 90 fathom level, and this end driven west of it 9 ft.; the lode in the end is 5 ft. wide, producing 3 tons of ore per fm., worth 51. per ton; there is a very good course of ore in a stope in the back of this level, between this and the engine-shaft. The 80 is driven 8 fms. west of the railroad shaft—a large lode, producing stones of ore. There is a winch sinking under the 70, about 17 fms. below the 80 fm. level; the lode is 5 ft. wide, producing 3 tons of ore per fathom. The 70 is driven 25 fms. west of the winch, and there is now about 30 fms. of ground between this end and James's shaft; for bringing this shaft in course to draw the ore, it was found necessary to cut it down from the 60 to its present depth—viz.: the 80 fm. level; and by doing this a north lode has been discovered, which, from its present appearance, will be found a great advantage to the future working of this mine; it was first cut about 7 fms. under the 70; it is standing to the north of the shaft, and above this point is a winch ground, and from present appearances, I think also to the east; this lode since cut has been producing about 7 tons of good copper ore per fm. The 80 is extended about 6 fms. west of the shaft; here the lode is equally as good, and the shaft is sinking for a trip-pit; here the lode will produce the same quantity of ore, and the water is all cut down from this place by sinking the engine-shaft, which is a good symptom. In the 70 fm. level, about 25 fms. west of the shaft, by a short cross-cut north, this lode is also cut, and this level is driving east on it, and there is a rise putting above the level; the lode in this place produces from 3 to 4 tons of good copper ore per fm. The 40 fms. west of this point there is a winch sunk to the 30 fm. level, and this level commenced to drive east from the bottom of the winch towards the 80, west of James's; here the lode is worth 44 tons of ore per fm. The 70 is driven west of James's shaft 80 fms.; 45 fms. of this ground has proved productive; there are three winches sinking in the bottom of this level, and from their appearance, there is a large quantity of ore to be raised under this point; the lode in the present end is very large, producing good stones of ore, and there is a winch sinking under the 60, about 20 fms. below the 70, and this level is producing a good quantity of ore; the winch is 100 ft. east of Taylor's shaft, which is perpendicular to the 66 fm. level; this level is driving east from the shaft; the depth here will be some fathoms below the 80, west of Gardiner's engine-shaft. A great improvement has taken place here since the present company have taken the mine.

WHEAL CHARLES.—Monkton's shaft is sinking under the 40 fm. level; it is down to the 50 within 6 fms. There does appear to be ore ground gone down in the old workings to the east on this lode for a great length, and there has been a fair quantity of ore, and by driving the 40 fm. level, the lode will be brought to the surface. Wheal Sparrow has not been worked to but a very shallow depth; but there has been a great quantity of ore rose from the 30 fm. level and above, and it worked to greater depths, I have no doubt that the lode will be found equally productive. At South Town, the water has been drained to the 64, and this level commenced to drive east. I consider this part of the mine should be drained to the 90; between these points I think there will be found ore sufficient to meet the expense, and it will be a great advantage in keeping the western water from coming to the United Hills, and generally, the sets are very extensive, and the improvement of the lodes has been such in the United Hills since the duchy has taken the mines, that I have no doubt but it will make a lasting and profitable undertaking to any company of adventurers who may embark in it. In conclusion, Mr. R. Taylor is deserving great credit for the improvement he has made in the method of dressing the ores, and for the manner in which the operations in working the mine beneath the surface have been carried out since he has undertaken the management.

WEST WHEAL JEWEL.—The rise in the back of the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, lode worth 21. fm. In the winch, in the bottom of the 57 fm. level, west of Williams's cross-course, on the same lode, lode worth 57. fm. In the 47 fm. level, west of Williams's cross-course, on the same lode, lode unproductive; the deep end, west of Williams's cross-course, on the same lode, lode not taken down in the past week. The rise in the back of the 12 fm. level, against Trengoning's shaft, is suspended, the ground being too costly for rising; these men are put to drive the deep adit end west of Trengoning's shaft, on Tolcarne tin lode. The stopes in the back of the 12 fm. level, west of Pryor's winch, on Tolcarne tin lode, lode worth 141. fm.; the stopes in the back of the same level, east of Pryor's winch, on Tolcarne tin lode, lode worth 167. fm.; the stopes in the bottom of this level, east of Trengoning's shaft, on same lode, lode worth 131. fm.; the stopes in the bottom of the level, east of Trengoning's winch, on the same lode, lode worth 131. fm.

WHEAL BENNY.—Owing to the dry season our surface water is considerably diminished, inasmuch that we have not been able to open on the 30 fm. level (Ford's shaft) since last reported, but should by all means recommend your procuring it at the depth above stated; the change already taken place is 6 feet—driving looks favourable for copper. The lode in the cross-cut south is getting more settled, and is from 2 to 3 ft. wide, with flake heads, soft spar, prill, &c., and the ground is more favourable for driving, being a brighter strata.

WHEAL TRELAWNY.—The 82 cross-cut, at Phillips's shaft, is progressing favourably; and, in the past week, we have divided and eased the shaft down to that level. The lode in the 72 north is 3 ft. wide, and worth 107. fm.; in the same level south the lode is 1 ft. wide, and worth 121. fm.; the stopes in the back of this level are producing a fair quantity of ore. The lode in the 62 north is still 4 ft. wide, and worth 137. fm.; the stopes in this level are also producing a good quantity of ore; the lode in the 42 north is 1 ft. wide, and worth 114. fm.; the stopes in this level, the lode is 1 ft. wide, and worth 87. fm. per fathom. The 73 fathom level cross-cut at Trelawny's shaft is extended west about 5 feet. The lode in the 53 fathom level, north of this shaft, is 3 ft. wide, and worth 121. fm. per fathom; all the stopes in the back of this level are producing a fair quantity of ore. The stopes in the back of the 42 north are producing a fair quantity of ore; the lode in the winch sinking under this level is 2 ft. wide, and worth 107. fm. In the north mine, the lode in the 55, north of Wheal Trelawny boundary, containing a good quantity of ore, but from the inside of the lode, and the lode is not so good as the lode in the north mine, we daily expect an improvement here. The lode in the 45, north of Trehane, is 1 ft. wide, and worth 67. fm. The lode in the 40, south of Smith's shaft, is 3 ft. wide, and worth 77. fm.; the stopes in the back of this level are producing a fair quantity of ore. The lode in the 30 north continues as last reported, on Thursday last, the 21st inst., we sold 106 tons of lead ore to Messrs. Walker, Parker, and Co., at 177. per ton.

WHEAL VINCENT.—There is no material alteration in the south lode since last reported on, but little of the lode having been taken down; the ground still continues soft for sinking. The north lode is much improved the last taking down; we have broken some of the largest and best stones of tin that we have ever seen since we commenced sinking. Our engine shaft is now down 10 fms. from surface; the shaftmen are now employed in casing and driving the shaft, so as to commence cross-cutting the lode.

FOREIGN MINES.

ST. JOHN DEL REY MINES.—Morro Velho, April 18.—Gold extracted to date 7615 lbs. from 433-27 cubic feet of sand; result of 10 days' stamping, 17-55 oits. per cubic foot. This good result of the first 10 days' stamping shows with what success exertions were crowned in working through the Easter holidays. I should be well content if I could encourage you to reckon on as good results for the succeeding fortnight of the month, but acknowledge that on this head I am far from sanguine, seeing that Capt. Treloar has been obliged, for the sake of keeping the mine in good working order, to remove 10 borers from the middle caochira (the most productive part of the mine) to other localities far less favourable; besides which, the ore now coming from the west caochira is extremely quartzose, and of very inferior quality. Stamps working 17 days 53-62 heads. Thanks to the perceptible diminution in our stock list, we are, fortunately, enabled to maintain a better supply of stone than I had ventured to hope for; still, in order to feed the state, we are obliged not only to break every stone good and bad, that comes from the mine, but also to bring in freely from the refuse heap, thus keeping down the standard of the ore to a miserably low figure.

Comparative summary of costs in the first three months of 1848 and 1849 enclosed. The increase under the head of materials (upwards of 53 per cent.) appears, at first sight, startling, but a little examination will suffice to dissipate this feeling. You will observe that the increase is principally under the following heads—Timber, iron, charcoal, kibble, chain, and gunpowder. Now, the inclined planes, and other important works, which we are now pressing forward (as detailed in my last letter), will sufficiently account for the enormous quantities of timber and iron now consuming; besides, the costs of the three early months of 1848 ought to have borne one-half of the 6000 rs. for timber consumed in the first six months of that year, but which were afterwards saddled on November, 1848, and which would in so far have diminished the apparent inequality. With increased consumption of iron, that of charcoal must go hand in hand; besides which, in the beginning of 1848, a good deal of the cost of charcoal appeared under other heads—say, carriage and labour; kibble and chain, figure more highly in 1849 than in 1848, owing to the accidental circumstance that, having been for an unusually long period deprived of our regular supplies, we were compelled, on their arrival in 1849, to take large quantities of each at once into use, instead of spreading them over a comparatively long period, as we should otherwise have done. Of gunpowder the consumption necessarily increases with the quantity of stone required from the mine. The increase under the head of hire of negroes is also great, but that is fully accounted for, by the increase

in the number of hired blacks, from 128 (the average of the three first months of 1848), to 412 (the average of the similar period of 1849). In the face, however, of the very heavy increase under the heads of materials and of hire of negroes, it is gratifying to see, that favoured as we were by the exchange, the total increase of cost was only 174 per cent.; while the following results are also worthy of attention—viz.: Increase of blacks, 33 per cent.; provisions, 45 ditto, the excess of 12 per cent. occasioned by the advance in price of figs and molasses; ores raised, 33 per cent.; produce, 32 per cent.; profit, 37 per cent.; costs as above stated, 174 per cent.

BOLANOS MINING COMPANY.

The annual general meeting of shareholders in this company was held at the offices, Duke-street, Adelphi, on Wednesday last, the 27th inst.

Sir ROBERT PRICE, Bart., in the chair.

The SECRETARY (Mr. J. Head) having read the notice convening the meeting, and the directors' report (which gave entire in last week's *Mining Journal*), Sir Robert Price and Lieut. Col. Nelthorpe, who retired by rotation, were re-elected directors. Mr. Henderson was elected a director in the room of Horace Twiss, Esq., deceased, and Mr. Terry was re-elected as auditor.

The CHAIRMAN observed that Mr. Henderson was the only candidate for the vacant directorship, and the fact of his offering himself looked well for the concern; that gentleman had spent much of his life in Mexico, and was well acquainted with the mines; it showed that he had great confidence in El Bote Mine.—From the statement of accounts, it appeared that the balance last account was 4241. 1s. 3d.; remittances from Mexico, 88301. 5s. 6d.; profit and loss, 71. 4s. 6d.; commission, 177. 17s. 8d. = 9279. 8s. 11d.—Due to sundry persons last year, 42761. 10s. 4d.; payment on account of persons in Mexico, 351. 5s. 11d.; goods shipped to Mexico, 9657. 3s. 5d.; experiments in reduction of ores, 3977. 6s. 9d.; directors and auditors, 8121. 8s. 5d.; home management, office expenses, postage, stationery, and sundries, 10557. interest and discount, 541. 9s. 8d.; alimony to owners of El Bote 12 months, 30001. = 10,5967. 3s. 6d.; from which deduct due to sundry persons, 18201. 19s. 3d.; leaves balance in hand, 5041. 4s. 8d.—A report from Mr. John Taylor was read, which stated that—

All that was essentially necessary for an extended prosecution of works was provided, and that the mines were now in the state in which, by the power thus afforded, the most important discoveries might be made. Hitherto there existed but one shaft, through which all the ore and water had to be drawn by horse-power at great expense, the water being so large a proportion of the whole, as not only to hinder the underground operations, but also to leave but little power unoccupied for the extraction of the ores and waste. Another shaft had reached a depth considerably below that part of the mine which had been so productive, and from a level had been driven, so as to be within a short distance of the point where it will reach the lode. This shaft is furnished with pumps, and a steam-engine of adequate power is erected, and is now actually at work; by which, as soon as the lode is intersected by the level, it may reasonably be expected the present bottoms will be laid dry, and if not immediately, this effect will be certainly attained as the level proceeds on the course of the lode, proving also in its progress the vein, with every reasonable hope of laying open productive points. Thus furnished with the means of effective and economical working, the concern was placed in a condition to take due advantage of every discovery which the many interesting trials that present themselves may lead to. To abandon the mine at this moment would be not only to sacrifice all that has been done at so much cost, and with so much care and labour, but to relinquish to others the mines in a state of preparation, which holds out every reasonable probability of great success being attainable at a comparatively moderate outlay. The mineral veins in this district are filled to a certain depth from the surface with a mineral substance of an obscure character, known in the country by the name of *coloredina*, and consisting of the upper parts of the veins of the copper lodes in Cornwall. In both cases they generally contain but little of the metals which are the objects of research, but are also in both regarded as pretty sure indications of valuable deposits beneath them. The lodes in El Bote abound in this substance; and the owners, from whom the company acquired their interest in the mine, relying upon these indications, sunk their shaft to such a depth as most likely to reach the ore fully expected to be found below the *coloredina*. In this expectation they were not disappointed, and the result has been so productive, and from a single shaft, and from a level had been driven, so as to be within a short distance of the point where it will reach the lode. 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VENTILATION OF COLLIERIES AND MINES.

The following are the instructions issued by the Secretary of State for the Home Department to Professor Phillips, F.R.S., and T. R. Bakewell, Esq., who have been appointed to inquire into the state of collieries and ironstone mines in the principal coal districts, especially with reference to the system of ventilation, and to report thereon:

SIR,—The frequent occurrence of serious accidents from explosions in collieries having rendered it expedient that a general inquiry should be instituted into the state of collieries and ironstone mines in the principal coal districts, especially with reference to the system of ventilation, I am directed by Secretary Sir George Grey to request that you will proceed at an early period to the coal district in which you are respectively situated.

I enclose, for your information, various reports which have been from time to time laid before Parliament connected with this subject. It appears from these reports that the chief cause of the accidents having occurred, and by which great loss of life has been caused, has been defective ventilation; and it is, therefore, of importance to ascertain in what proportion of the collieries in the district assigned to you the system of ventilation is calculated to insure the safety of the persons employed in them—what are the chief defects in others—how the most effectual remedy can be applied to these defects—and what general improvements can be suggested.

The risk, moreover, of accidents from a want of proper attention to shafts, inclined planes, underground works, the machinery employed, and other causes should not be overlooked. Although, owing to the modifications of the varied conditions under which coal and ironstone of the coal measures are worked in the different coal districts, it is impossible to suggest with accuracy all the topics to which your inquiries should be directed, the annexed list of questions may be of use in directing your attention to certain points of importance, to which your own experience and practical knowledge will supply any deficiencies in the list.

You will exercise your own discretion as to the order in which you will visit different parts of your district, and the collieries you will inspect; and you will report, from time to time, to the Secretary of State on any portion of the district, without waiting for the completion of your inquiry into the whole. In case you should be of opinion that, either from defective ventilation, or from any other cause, danger is to be apprehended to the lives of the persons employed in any colliery, you will immediately acquaint the managers of the colliery with the opinion you formed, and with the grounds of it, and suggest such measures as appear to you to be requisite to remove the causes of danger. If your representations should not be attended to, you will forthwith report the case to the Secretary of State.

If, during the progress of the inquiry, you should hear of the occurrence of any serious accident in any colliery within your district, it will be desirable that you should visit such colliery without delay, and attend any investigation into the causes of the accident, reporting the result, with your opinion, to the Secretary of State. Your attention will be directed to any experiments which may come under your observation for extinguishing fires in collieries, for their better ventilation, or for the improved safety of the works in any respect.

You will offer the parties interested any information or suggestions which may appear to you calculated to be of use; but it must be borne in mind that the responsibility for the adoption of efficient measures, for the safe and proper working of collieries, rests with their owners and managers.

The production of your instructions will, it is hoped, secure to you from the owners and managers of the collieries access to all collieries in the district. If any obstacle should arise to your inspection in particular cases, you will report it to the Secretary of State.

1. Name of colliery or ironstone mine.
2. Nearest post town.
3. Name of proprietor of colliery or ironstone mine.
4. Name of lessee or worker.
5. If the colliery or ironstone mine, is under the superintendence of a resident or non-resident viewer, attending only at stated times; the name of the viewer, and his times of attendance, if non-resident.
6. State of information respecting the common principles of ventilation possessed by the minor superintendents, giving their occupations, and the local names for them.
7. Number engaged in the various occupations, with local names for such occupations.
8. If maps and sections of the workings are kept, when kept their condition and correspondence with the actual workings, the times at which they are brought up to the work, and the scales adopted.
9. Mode of lighting adopted, whether by naked lights or safety-lamps, specifying the kinds used, with the regulations in force respecting them.
10. Description and local names of the coal bed or beds worked in the colliery, and whether liable to the escape of fire-damp, choke-damp, sulphur, or by whatever names the noxious gases found in collieries may be known. If such gases get into the workings from other sources than the coal bed or beds worked.
11. Whether the escape of these noxious gases is much influenced by changes in the weather, especially those accompanied by changes in the barometer.
12. Whether the colliery or ironstone mine is worked by shaft, inclined plane, or level.
13. If by shafts, their number, depth, form, and section, according to measurement.
14. If by a single shaft, detail of its divisions, their several uses, and portions actually available for ventilation, and free from obstructions. The conditions of separating walls or brattices, and of what constructed.
15. If by two or more shafts, their respective uses, and if any system of regular upcast and downcast shafts adopted. Whether any furnaces or other means (specifying them) are employed for ventilation purposes.
16. Volume of fresh air supposed to be introduced into the colliery or ironstone mine by shafts or levels, and how far this corresponds with actual experiments made to ascertain the real volume of air introduced, with its rate of motion through the workings.
17. Mode of distributing the air introduced, including that used for the stalls, face of work, or by whatever name the places may be known at which the air is actually set on the coal.
18. Manner, if any, in which the goaves or other wastes may be ventilated.
19. How far this distribution of fresh, and the removal of foul, air may coincide with a proper system of ventilation, all local conditions being taken into account.
20. If the colliery or ironstone mine be worked by level or inclined plane, the mode of ventilation adopted.
21. Regulations in force respecting the state of the air in the workings before the men are admitted to them; and, when constant working is adopted, the precautions taken for ascertaining the condition of the air at stated times during the day.
22. Regulations in force for ascertaining the state of the air in the goaves and wastes, not immediately in connection with the actual workings, but which may, under certain conditions, furnish noxious gases that could escape into the actual workings.
23. Condition of the foul or return air near the upcast shaft, or other mode of exit.
24. State of the supports, natural or artificial, by which the works are kept open and the roof up; of the doors, brattices, and other means by which the ventilation is arranged, and of the underground workings generally.
25. Condition of the shafts, or inclined planes, by which the men are raised or let down from or to the workings, when they come up or descend by such means.
26. Number of persons killed or seriously injured by explosions, or their effects, by choke-damp, accidents in the shafts, or in the workings from other causes (specifying them) during the last 10 years.—27. General remarks.

ACCIDENTS.

Another Fatal Coal Pit Explosion.—We regret again to have to notice one of these awful catastrophes, which took place last Saturday morning about six o'clock, at Mr. J. T. Johnson's, Laffak Colliery, near St. Helen's, which is 160 feet deep, and driven into the Rushy Park Mine. A new shaft had recently been sunk to increase the ventilation, and the cause, as in most other cases, we suppose can only be conjectured. The explosion occurred in a "goave," where from 60 to 70 men were at work, and was most violent in its effects. One of the thick heavy planks at the mouth of the shaft, which tightened the conducting rods, was blown high in the air, and falling on the head of J. Derbyshire, the bankman, fractured his skull, of which he died. Four were brought out dead, whose names are R. Norcross, T. Atherton, J. Molyneux, and J. Bradbury; twenty-two were severely injured, of whom it is expected three cannot survive. The ventilation of this pit must have been good, as all the bodies were recovered in less than two hours. Every man is furnished with a lamp, and it is instant dismissal to use a naked candle; nevertheless, it is supposed that one of the men must have done so, and caused the accident.

More Lives lost by a Colliery Explosion.—A lamentable accident occurred about half-past six o'clock in the morning of Tuesday last, at Mr. Morris's colliery, Great Bridge, near Dudley. About 70 men and boys descended the pit, which is 274 yards deep, and has seven roads, from 60 to 80 yards long. They were accompanied by the doggy, who carried with him his safety-lamp, but the explosion took place, which alarmed the whole neighbourhood. As soon as possible assistance was procured, and by eleven o'clock 62 men and boys were taken out, of whom eight were dead, and many of the others so much injured, that it is impossible they can recover. Six boys, up to Wednesday, remained in the pit, the air in which was so foul none could venture in it; it is expected that at least 25 lives will be sacrificed by the melancholy catastrophe. Among the men killed was the doggy Fritchard, who, some of the men say, unscrewed his safety-lamp, and thereby caused the explosion. Of seven horses in the pit five were killed. The pit had not been worked since the previous Saturday, and required, therefore, much care in entering it. From the report of the three agents who have examined minutely the workings, airways, &c., there appears to have been no lack of judgment, or care, on the part of the mine bailiff, or the proprietors, but that a considerable quantity of coal has been sacrificed for the security of the airway; and the airway was carried to the most practicable distance, being carried as far as any coal was cut away. The inquest viewed the bodies with the object of their immediate interment, and is adjourned to Monday next.

West Bromwich.—Wm. Bullock was killed by an explosion of fire-damp in a coal pit at Sandy-lane, the property of Messrs. Botley and Tildesley. He was on a scaffold half way up the shaft driving a heading, and instead of sending the rubbish up, allowed it to remain until it impeded the ventilation, and caused the gas to accumulate until it reached the explosive point, when his candle ignited it. He was the only person in the mine.

Buxton.—S. and W. Bennett were crushed in the Curbar Stone Quarry beneath a heap of stone and rubbish; the former was killed, but the latter, though much injured, is expected to recover.

Asphire Iron Company.—At the coal and ironstone pit, No. 3, on the farm of Hawhill, two men were killed instantaneously, and two others so severely injured, that one of them is not expected to recover.

Amble, near Newcastle.—As John Hetherington was at work in the colliery a piece of coal, about two tons weight, fell from the roof of the pit and crushed him to death.

Merthyr.—John Davies was killed by the trams on the Dowlais incline going over him.

Gellipton.—Hopkin Richard, collier, was killed in the Llancafach colliery, by falling to the bottom of the pit.

R. Dobson was burnt to death in one of the Cyfarthfa levels by an explosion of foul air.

Tidale.—T. Bowater was seriously injured by a fall of coal at the colliery of Messrs. Caddick and Mason. Among the injuries he received was a dislocation of the right hip, which, however, was speedily reduced by the colliery surgeon.

Derbyshire.—As Matthias Taylor (11 years old) was ascending a pit belonging to Messrs. Lancaster, at Dunstone, on arriving at the top, he slipped out of the corve, and fell a distance of 19 yards; he was killed on the spot.—As Abraham Cook (10 years old) was at work in a coal-pit at Summercoates, near Alfreton, a piece of bind fell upon him, and crushed his head and body to such an extent, that he survived only about 24 hours.—As George Sims (12 years old) was playing near a stone quarry, he accidentally fell into a hole, which was about two yards deep in water, and was drowned.—*Derbyshire and Cheshire Reporter.*

Sedgley.—John Parkes was killed by a fall of coal in a pit at Fryer's Field.

MAKING HAY ON A RAILWAY.—We have heard of grass growing in the streets of decayed towns, but never till now on railways—such, however, is the fact, on the line from Exeter to Crediton, where during the present week hay-making has been in full operation. This line, which was constructed three years since, is, owing to a dispute between the broad gagers and narrow gagers, still unopened for traffic, though there is, perhaps, scarcely another in the kingdom better situated for it.

MINING NOTABLIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

EXMOOR WHARF ELIA.—This mine presents a feature of the most promising character. The great north lode, in the adit level, is from 6 to 7 ft. wide, composed almost entirely of gossan, but it is that of a very inviting character. In the 12 ft. level it is still maintaining its size, but has a little more promising appearance, being at this point, composed of gossan, thickly impregnated with copper; if the improvement on this lode holds good, I have no doubt but there will be a good course of ore in the next level. The south lode, in the 12 ft. level, is about 2 ft. wide, composed of gossan and white iron, occasionally producing good stones of ore, and which, I have no doubt, at a greater depth, will be a very profitable lode; the caunter lode, in the 12 ft. level, is about 2 ft. wide, composed of gossan, spotted with ore. In the 24 ft. level it is still larger, being about 3 ft. wide, which is composed of a beautiful gossan and munde, producing good stones of ore. If the improvement made in this mine continues, there is no doubt but the shareholders will be handsomely remunerated for their outlay. I also find, from reports, that the progress made on this mine has been very slow of late, in consequence of a deficiency in the machinery for keeping the water, but, after an inspection, I find that during the last fortnight an alteration has been made, which is decidedly a great improvement, and will have a tendency greatly to increase the working operations, for which the agents deserve credit, as I understand they strongly recommended it for some considerable time.

LJUNYNALES.—We understand that a minute inspection of this mine has just been made, and that the favourable reports of Capt. Henry Francis are more than borne out. A lead lode, 17 ft. wide, has been driven on; it contains many veins of rich silver-lead, is valued at between 300 and 500 per fathom, and has every prospect of being one of the richest lodes in Cardiganshire. A full report will be laid before the meeting, to be held on the 10th July.

TINCROFT.—We have an improvement in the 90 ft. level, west of downright shaft, on Chapple's lode, being worth 300 per fathom for tin. The lode in the 110 ft. level is about 2 ft. wide. The 24 fathom level cross-cut is communicated to Stainby's; the stopping in the back has been commenced, and 40 to 50 tons of good ore will be produced this month; the shaft is being sunk below this level with all speed, the prospects throughout the mine being good for tin and copper.

[From the Plymouth Journal.]

BIRCH TOR AND VITTEF MINES.—Vittef Lode: In Dunstan's shaft there is an improvement since our last. The 10 ft. level west is producing as much tin as it has at any time done; the 10 east has much improved, it is now 4 ft. wide, producing some good work; it is within 10 fms. of the silk beds, of which the traditions as to the returns by the ancients are confirmed by the immense surface workings. There is no alteration in the Birch Tor lode since our last.

PLYMOUTH WHEEL YEOLAND.—In the tributary workings, on the north lode, there is a good lode. The roads are fixed, and the sinking of the shaft resumed, and it is expected that the lode will be cut in the 17 ft. level about the last week in July.

TAVY CONSOLS.—I can now announce a considerable improvement. The bottom, or 46 ft. level west, is in a large lode and kindly, but without ore as yet sufficient to save; the cross-cut, on the cross-course, towards the Wheel Pit lode, is making fair progress, although I would rather see the men better employed. The 24 ft. level west is stopped for a month or two, in order to let the bank in a kindly lode just close to the stop; in the eastern rise from this level, towards the 12, the lode is much better, now producing 3 tons of ore at least per fm., and the 12 ft. level, lately resumed, is looking considerably better. We have seen 3 ft. of the lode, good work, and how much bigger I cannot tell till next week.

WHEAL ANDERTON.—The prospects in this mine are still continuing good: 10 tons of tin were shipped on the 26th June of superior quality, exceeding in value any other raised in the two western counties. At the present standard of metal, there is a reduction in value to the amount of 12 per ton since the meeting held on the 22d March, which would have been equal to a dividend of 12 per share on the three months' outlay; notwithstanding this the quantity has been realised, but the depression in the market, occasioned by unforeseen occurrences, has been the sole cause of loss to the spirited adventurers and their managing agent.

IMPROVEMENTS IN SMELTING COPPER.

[Specification of patent granted to Charles Low, of Roseberry-place, Dalston, in the county of Middlesex, for improvements in smelting copper ore.—Enrolled June 28, 1849.]

This invention is very simple in its details; indeed, it may be said to have no details at all, or, at all events, it would seem so to have been considered by the patentee, and those who assisted him in the preparation of the specification, as it has not been thought worthy of illustration, even by a mere diagram, to assist the practical carrying out of the invention; however, this will argue nought against the utility of the improvements, as it is well known that complexity is no recommendation.

The description given by the patentee is as follows:—The invention consists in the introduction of atmospheric air into furnaces employed in the manufacture of copper, in such manner that currents of air may be admitted above the melted metal, and yet below the flame and heated products at the top of the furnace.

In the ordinary furnaces used in the manufacture of copper, apertures, or orifices, are left for occasionally admitting atmospheric air, and there are other apertures, or orifices, provided in the furnace for charging the same. Now, this invention consists in so constructing the furnaces used in the manufacture of copper, that atmospheric air may be admitted at a point, or points, above the melted metal, and yet beneath the flame and heated products at the top of the furnace, so that the currents of air so introduced, becoming decomposed and deprived of their oxygen, shall assist in the separation of the metal. Reverberatory furnaces are to be formed with apertures, or orifices, at or near the bridge, or such apertures may be at the sides of the furnace. The patentee makes no specific claim, therefore the foregoing description must be taken to comprise his claim.

Patent-office and Designs Registry, 210, Strand, June 29.

New Patents.

H. Bessemer, Baxter-House, St. Pancras, Middlesex, engineer, for improvements in the methods, means, and machinery or apparatus employed for raising and forcing water and other fluids.

T. Merchant, Derby, civil engineer, and R. Harland, Derby, carriage builder, for certain improvements in the construction of railway carriages.

G. B. Thornycroft, Wolverhampton, ironmaster, for improvements in manufacturing railway ties, axles, and other iron work great strength and durability is required.

T. W. G. Ry, Limehouse, brass-founder, for improvements in water closets, pumps, cocks, lubricators, and deck lights.

J. Nasmyth, Patricroft, near Manchester, engineer, for certain improvements in the methods of, and apparatus for communicating and regulating the power for driving or working machines employed in manufacturing, dyeing, printing, and finishing textile fabrics.

J. Leadbetter, Kirby Lonsdale, Westmorland, brewer, for certain improvements in the method of raising water and other fluids, which improvements are also applicable to the propulsion of machinery, pumping of mines, and other similar purposes.

W. Neilson, Hyde Park-street, Glasgow, engineer, for an improvement or improvements in the application of steam for raising, lowering, moving, or transporting heavy bodies.

C. Nickels, gentleman, York-road, Lambeth, for improvements in the manufacture of woollen and other fabrics.

J. T. Forster, Plymouth, a master in her Majesty's navy, for improvements in the building of ships, boats, and other vessels, also in the manufacture of boxes, packing cases, roofs, and other structures requiring to be waterproof.

E. Woods, Liverpool, Lancashire, civil engineer, for improvements in turn-tables.

T. B. Brown, gentleman, Hampers, Gloucester, for improvements in looms, and in the manufacture of woven and twisted fabrics.

Bram Hertz, gentleman, Great Marlborough-street, Middlesex, for improvements in, and an addition to, a new method of, and apparatus for, cutting and grinding of glass.

W. Wilson, jun., of Campbellfield, Glasgow, Scotland, for improvements in cutting plastic tubes or tiles.

SPECIFICATIONS ENROLLED DURING THE PAST WEEK.

R. Frampton, Queen-street, Bromley, wheel plate.

C. Burrell, Theford, Norfolk, lifting machine.

W. H. Dugre, Jersey, defence windguard and vent ventilator.

J. Giller, Birmingham, the Gillerian stopper for decanters and bottles.

J. H. Steere, Burton-on-Trent, parts applied to diaper and shawl pins.

J. J. Brunet, Canal Iron-Works, refrigerating brasses.

T. Eldrid, and J. Atkinson, London, wip paraol.

A. Whytock, Quaker-row, New-road, shower bath.

C. H. Osborne, Birmingham, ladies' dress-fastener.—*Mechanics' Magazine.*

JOINT-STOCK BANKS.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	10	£24 1/2
20,000	British North American	50	8	40
20,000	Colonial	25	5	7 1/2
—	Commercial of London	25	6	20 1/2
4,000	London	25	6	24 1/2
60,000	London Joint-Stock	25	6	15 1/2
40,000	London and Westminster	20	6	28 1/2
10,000	National Provincial of England	35	5	35
20,000	National of Ireland	22 1/2	6	18 1/2
30,000	Provincial of Ireland	25	8	39
—	South Australia	22 1/2	—	18
20,000	Union of Australia	25	6	24 1/2
8,000	Edinburgh	25	6	21 1/2
60,000	Union of London	16	6	10 1/2

MISCELLANEOUS COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
5,000	General Steam Navigation	14	10	21 1/2
11,000	Peninsular and Oriental Steam	50	7	70
—	Royal Mail Steam	30	5 1/2	50 1/2
10,000	Australasian Agricultural	30	—	16 1/2
10,000	British American Land	35	—	14
9,915	Canada	33 1/2	6	31

factor, I now give you a few facts, to prove that the picture and its perspective are not so bright as he paints them.

The company's report for 1847, gives the total number of blacks at Morro Velho, 847; deaths during the year, 22—being 2.6 per cent. The superintendent, in his general remarks, is very laudatory of the medical officer for the small mortality. By the report for 1848, the number of blacks was 1100; the deaths in the year, 59, or 5.36 per cent. The superintendent, in his general remarks, does not even allude to this increased mortality of his "fellow-men and fellow-Christians." Of these 59 (men, women, and children), 16 were bora—men picked as the strongest and healthiest on the establishment. This description of force, during the year, averaged 194—showing that more than 8 per cent. of men, between 20 and 25 years of age, died in 12 months. Epidemics alone cannot be answerable for this striking mortality amongst young and strong men, when the average deaths of all ages was not 5.3 per cent. To account for it, I make no imaginary statement; but refer to the published records of the company, leaving to those who wrote them the task of explanation.

In the general remarks of the head mining captain, for the year 1847, the average number of bora is given at 176.53, who broke 40,859 tons of ore, or 192.8 tons per bora per month. The mining captain adds, that he hopes they will average 22 tons in 1848. By the report for 1848, the average number of bora was 199.96, who broke 61,672 tons, averaging per head 26 1/2 tons per month, or 37.5 per cent. more than was broken in the preceding year. It is nonsense to talk of epidemics as killing the blacks. This is an increase of labour, and consequent increase of deaths amongst the miners, to which I do not believe freemen would be liable.

As to the future brilliant and permanent prospects of this mine, no one who knows anything about mining will deny that everything depends upon the force employed; and all who are acquainted with the mining district of Brazil in general, and the locality in which Morro Velho is situated in particular, will certify that free labour cannot be procured when required. The St. John del Rey Company, without increasing its length of stopping ground (for the 12 fms. laid open at West Quebro Panella is not in stopping order) has most unwisely added 50 per cent. to its stamping power. They want more slave labour; but the difficulty of obtaining it is much increased by the great mortality. In the first three months of this year, 20 blacks have died, or at the rate of 80 per annum, on 1100 persons, amongst whom not 20 have attained the age of 50. My correspondent at the mines was lately told by a large slave-owner that he would as soon send his blacks to the agogoe (slaughter-house) as to Morro Velho.

To sum up, additional force is requisite to keep up the returns; freemen cannot be obtained; the slaves are dying faster than others can be hired to replace them; the costs are increasing, and will continue to increase; to assist in swelling them, a steam-engine is about to be erected to work the blast in the smithy; the mine is deepening fast, and getting poorer, the ore being 10.47 per cent. less productive in 1848 than in 1847 (see report); and the concern is under the management of an infirm and nearly blind old man, who, physically incapable of going into the mine, overlooking the surface-work, or understanding the blacks, is absolutely led by his subordinates in every decision he arrives at, or opinion he expresses. He leads the shareholders to expect larger profits in 1849 than the past year yielded. I prophesy that he will not be able to keep his stamps supplied with stone, that the ore will further fall off in value through working the lodes too wide, that the expenditure will be augmented, and the returns, and consequently the profits, sensibly diminished.

Islington, June 25. J. F.

FOURDRINIER'S SAFETY APPARATUS FOR MINES.

SIR,—Knowing how open your columns are to everything that professes to benefit the mining interest, I beg to make a few remarks upon a notice which appeared in one of your recent papers. That notice was on a subject in which I am deeply interested. It professed to detail the result of some experiments instituted at a colliery on the Tyne, upon the very ingenious apparatus designed by Mr. Fourdrinier, for the protection of life and property, in the event of the breakage of ropes, or chains, by which cages are raised or lowered in coal and other mines. Further, Mr. Fourdrinier's invention was stated to have been satisfactorily tested. Now, I beg to be considered as one partaking in the satisfaction naturally diffused by the account of such pleasing results. The want of some such apparatus has been to me the loss of some personal friends, and to the public the loss of many valuable lives. But, while with the benevolent I rejoice at the prospect held out by this invention, experience and the recollection of similar inventions proving failures, warrant me, on the present occasion, to enter a caveat. This I do without detracting from the ingenuity of the inventor, or the excellence of the motives that have urged him in the completion of his design.

Knowing, however, as I do, the circumspection and care that attend the present arrangements in all well-regulated collieries, I have great misgivings, in fact, an extreme jealousy, of anything that may tend to diminish the vigilance exercised; as the too ready confidence inspired by such an invention becomes a bonus to the carelessness of some and the avarice of others, to avail themselves of what are as yet questionable advantages. Ropes and chains are heavy items in the expense of a working pit; and as these are now renewed even before they become a doubtful security, I fear that relying upon Mr. Fourdrinier's invention, he whose duty it is to watch their sufficiency, or to avoid so heavy an outlay, the greed of the self interested may cause them to postpone the day of renewal; and that in an evil hour, when most needed, it might not be found to prevent a dreadful catastrophe. Does not Mr. Fourdrinier's project savour a little of the parachute that was to be the salvation of adventurous aeronauts?—A MINER: *Times*, June 27.

[From the tenour of our correspondent's letter, we must infer that, however he admires the satisfactory experiments and successful ingenuity displayed in inventions for the safety of human life, he would not avail himself of them for fear of encountering an evil in an opposite direction; and though he has lost friends by ropes breaking, he would not adopt a plan to save others, lest the apparatus might by chance fail. We cannot, however, agree with him; new ropes and chains are not always to be depended on; they have been known to fail, causing fearful and fatal disasters under a display of the greatest confidence. Our correspondent should remember that Mr. Fourdrinier's apparatus is as great a safeguard to life and property, whether the ropes, or chains, be old or new; it is constructed on sound mechanical principles, and, in fact, this very circumstance is put forward as one of its advantages. You may work your ropes, or chains, until they do actually break, or, at least, until found totally unworthy of further use, and this with almost certain safety, which alone will be productive of considerable economy, in most cases very soon covering the cost of the apparatus, and, in all, taking off an immense load of anxiety from the minds of owners and viewers. We cannot see the most distant parallel between the machine, and a parachute for descending from a balloon.]

PREVENTION OF ACCIDENTS FROM ROPES BREAKING.

In our columns of the 16th inst., we gave a copy of a certificate, signed by several of the principal colliery proprietors and viewers of the Newcastle district, as to the security and safety of Messrs. Fourdrinier's apparatus, to which we have, on frequent occasions, directed attention. We have now the pleasure of recording additional testimony, bearing the signatures of James Mather, Esq., chairman of the South Shields Committee for Inquiry into Accidents in Collieries (a lengthy abstract of whose report appeared in our Journal at the time), and several other gentlemen intimately connected with colliery operations—George W. Arkley (viewer) and George Elliott (viewer), with Mr. E. N. Fourdrinier having descended the cage. There were many persons present who had witnessed the previous experiment, but whose names are not attached to the present certificate—this second having been made solely in consequence of the desire expressed by the several parties to witness it who had been unable to attend on the first occasion, and not from any doubt arising as to its efficiency and security in the prevention of accidents from breakage of rope, or other causes, which the apparatus is so well calculated to obviate.

Unsworth Colliery, near Newcastle, June 25.

Mr. Fourdrinier has experimented in our presence with his patent safety apparatus and produced invariably by it the most certain and satisfactory results. The tubs, filled with coals, were placed in the cage, weighing altogether about 50 cwt.; and when descending in the pit the rope was detached, and by the action of the apparatus the whole was immediately arrested in its descent, but for which it would have been precipitated to the bottom of the shaft, 1000 ft. below. Two of the workmen then placed themselves on the cage, and by a touch of their hands stopped this weight of 2 1/2 tons with themselves, in addition, instantaneously; and so satisfied were four of the gentlemen present of its effective nature, that they unhesitatingly committed themselves with a load of 40 cwt. to its protecting operation, with the same successful result. Considering the number and disastrous nature of the accidents from the breakage of ropes and chains, and from drawing over the pulley, against which the Fourdrinier apparatus completely provides, we consider it, wherever adopted, a certain and complete security against such accidents.

William Anderson, viewer. George William Arkley, viewer.
George Elliott, viewer. Henry R. Webster.
James Mather. C. W. Anderson.
J. C. M. Webster.

CAMERON'S COALBROOK STEAM COAL COMPANY.—We are given to understand that certain measures have been lately taken, whereby the original proprietors will be reinstated in their property after receiving some tens of thousands, and, furthermore, an additional sum of 10,000L, in accordance with a late arrangement. There would appear to be a something "rotten in the state of Denmark," were we to give credence to the reports which are spread abroad; but as we are given to understand that a further application to the Court of Chancery will be made in the course of the ensuing week, we expect, we shall then, doubtless, have an exposition, which may call for further remark.

CONTRACTS FOR COALS.—The quantity of coal for the French Post-office mail steamers, for delivery in July, is 4,300,000 kilos, at Calais, Marseilles, Malta, Athens, Constantinople, and Alexandria. In August, for the same ports, 4,400,000 kilos, and the several quantities for September and October will make a total since December, 1848, of 39,400,000 kilos. A large contract is about being entered into for the Mediterranean, of which due notice will be given by the Minister of Marine.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 185	Belgian, 4½ per Cent., 81½
3 per Cent. Reduced Ann., 92 1½	Dutch, 2½ per Cent., 51½
3 per Cent. Consols Ann., —	Brazilian, 5 per Cent., 81
34 per Cent. Ann., 92 1½	Chilian, 6 per Cent., —
Long Annuities, 5½	Mexican 5 per Cent., 103
India Stock, 10½ per Cent., —	Russian, 5 per Cent., 103
3 per Cent. Consols for Opp. 92 1½	Spanish, 5 per Cent., 17 17
Excheq. Bills, 1000, 2d. & 1d. 43 6 pm.	Ditto 3 per Cent., 34½

MINES.—The bargains transacted this week in the mining share market have been very limited.

Mary Ann has been in request, at an advance; 94 tons of silver lead ore have been sold this week, realising nearly 1400l., being two months' raisings.

The improvements in Alfred Consols have created an inquiry for shares, at better prices.

Tincrofts have been in demand, an improvement having taken place in the 90 fm. level west, on Chappel's lode, which is worth 30l. per fm. for tin; the stopes in the back of the 24 fm. level are productive—40 to 50 tons of good ore will be produced. The mine throughout is looking well, both for tin and copper.

Shares in the following mines have been transacted:—Devon Great Consols, South Frances, West Caradon, East Tamar, Keswick, Mendip Hills, Heington Down Consols, Brewer, Wheel Mary Ann, Alfred Consols, Trelawney, Stray Park, Kingsett and Bedford, Kirkcudbrightshire, Birch Tor, Tincroft, Tamar Consols, South Trelawney, South Molton, Eagar Lili, Cwm Erfu, &c.

North Pool adventurers declared a dividend of 30l. per share on Friday last. At the Fowey Consols meeting, the profit on four months' working to April, was shown to have been 237l. 1s. 6d., which, added to balance of previous account, left in hand 6247l. 0s. 3d.

Herodsfoot adventurers held a special general meeting, for the purpose of investigating the accounts, and appointing a manager. It was ascertained that liabilities to the amount of 2567l. had been suffered to accrue. A call of 5l. per share was made towards liquidating the debt, and Mr. J. Wolferstan was appointed manager, in whose hands we shall, after a few months, see a more creditable statement of accounts. The mine is represented as much improved.

At the Bolanos meeting, on Wednesday, the directors' report was principally devoted to an explanation of the works which had been carried on at El Bote Mine, and the financial position of the company, from which it appeared that \$41,882 had been expended on it in 32 months, to March, 1848, of which \$15,494 were profit, and that, in the past year, further expenditure had been incurred to the extent of \$84,636. This heavy outlay had been incurred in the erection of necessary works, machinery, roads, &c.; and the whole was in a perfect and effective state to proceed with spirit on the production of the necessary funds. The balance of assets over liabilities, in Mexico, was \$56,829, in addition to the Bolanos stock, engines, haciendas, &c. The meeting unanimously sanctioned the issue of 14,000 shares, at 3l. per share, by way of loan, to be returned from first profits, and the shares to be retained as bonus, ranking equal to original shares.

Sharp Tor company held a general meeting on Thursday; the financial statement showed a balance of 760l. in hand, and the accounts from the mine were considered by the shareholders as very satisfactory.

In foreign mines the transactions have also been limited. Guadalupe, United Mexican, St. John del Rey, Imperial Brazilian, and Copiapo shares, appear to be the extent of *bona fide* business.

St. John del Rey directors have received letters to the 18th April, which represents the result of 10 days' stamping as amounting to 7615 octavas, being at the rate of 1755 oct. per cubic foot of sand. The first 10 days of the month have shown an unexpected and large return; but it was not expected to be in the same proportion throughout the month. In a comparative summary of costs of the first three months of 1848 and 1849, the expenses had increased 17½ per cent., while the profits had been enlarged by 57 per cent.

By the India and China mail we have received advices of the position of the metal market in the East. At Bombay, a fair demand for copper exists at steady prices, and sales do not appear to be confined to any particular sorts. In iron, although there has been some considerable arrivals, it has in nowise effected the prices. Spelter has been scarce, and the recent imports only gave moderate stocks. Lead and steel maintained the quotations, notwithstanding the transactions were few; stocks of tin plates were light and business doing. The Calcutta market had not been so good, copper having slightly receded, and the trade dull; but a reaction has subsequently taken place, and business done at improved prices. Spelter is represented as nearly the same; whilst quotations for lead appear nominal. English iron had receded, but now a fair demand exists, and prices improved. At Hong Kong, the business has been chiefly confined to iron and steel, and transactions but few.

The Peninsular and Oriental steam-ship, *Montrose*, arrived at Southampton on Sunday, having on freight 18 packages of specie, valued at 8000l.; and the company's ship, *Indus*, arrived on Wednesday evening with 450 packages of specie, and five packages of gold on freight; total value, 177,432l., the greatest portion being remittances for account of the Hon. East India Company.

HULL, THURSDAY.—We have pleasure in noticing an improved market for railway shares, so far as prices are concerned, although the demand cannot yet be called active. The forthcoming reports of the committees of investigation are looked forward to with anxiety, and their tenor will probably, for a time, determine the range of prices.

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Length 1849	Present actual cost.	Price per share	Div. (Traffic Returns) 1849	1848
Aberdeen	33 16	1,000,747	183 18	—	£ 400
Belfast and Ballymena	37 37	—	30 5	£ 542	439
Birmingham, Lancashire, & Chesh.	19 15	1,088,804	37 5	1071	887
Bristol, Blackburn, & West Yorksh.	14 —	765,384	74 —	—	430
Carlisle and Exeter	75 75	2,660,490	66 —	5093	—
Caledonian	141 —	4,855,135	263 3	1071	4073
Chester and Holyhead	84 89	3,358,217	174 4	2537	1112
Dublin and Drogheda	35 35	774,875	29 —	829	—
Dublin and Kingstown	7 7	395,915	—	1033	1000
Dundee, Perth, & Aberdeen Junction	47 47	344,554	20 6	1059	781
East Anglian (Lynn to Ely)	91 55	1,167,104	2 1	649	1093
East Lancashire	75 24	3,529,519	17 17 1/2	5	8142
Eastern Counties and Norfolk	222 225	13,027,069	84 1	1591	13810
Eastern Union	82 80	1,712,703	—	1329	1307
Edinburgh and Glasgow	57 52	2,644,378	42 6	3509	3402
Edinburgh and Northern	78 34	2,232,115	11 3	2059	1449
Glasgow, Paisley, and Ayr	102 71	2,574,330	56 3	2724	2066
Glasgow, Paisley, & Greenock	23 23	848,328	15 2	1049	1097
Gr. Northern & East Lancashire	126 —	4,255,171	10 1	57	2005
Gr. Southern & Western, Ireland	110 110	3,174,215	31 67	2418	2224
Great Western	164 161	1,608,815	82 4	1912	2295
Kendal and Windermere	104 101	1,745,000	—	150	158
Lancaster and Carlisle	70 70	1,476,102	51 4	2013	1900
Lancashire and Yorkshire	200 197	9,215,450	79 80	13976	13090
Liverpool, Crosby, & Southport	13 —	84,435	—	217	—
London and North Western	435 428	25,077,942	134 2	7	44262
London and Blackwall	5 4	1,299,675	4 1/2	1135	1336
London, Brighton, & South Coast	170 162	5,385,281	37 2	10371	10350
London and Holyhead	218 215	7,510,980	36 3	11384	10925
London and Southampton	144 144	1,712,026	—	146	153
Manchester, Sheffield, & Lincolnsh.	129 124	6,048,679	36 5	3631	3338
Midland Company	471 423	14,042,340	70 60	54	22457
Midland Great Western (Irish)	50 36	735,332	24 4	1029	910
Monklands	37 —	500,000	—	6	—
North British	109 83	3,649,055	134 4	226	2016
North Eastern	45 21	1,864,228	21 1	1232	833
South Central	42 23	1,862,618	14 5	1576	632
Sturtevant and Chester	57 23	1,909,332	12 13	5	1858
South Devon	165 163	8,116,514	20 5	9275	10293
Taff Vale	40 40	879,110	—	72	2535
Ulster	36 36	723,529	45 1/2	—	736
West Cornwall	13 —	—	—	—	—
Whitehaven Junction	12 12	150,879	9 3	236	214
York, Newcastle, & Berwick	269 262	6,827,849	32 7	13384	12534
York and North Midland	258 254	4,965,616	32 7	7262	6042

FOREIGN RAILWAYS.

Amiens and Boulogne	76 68	1,462,562	7 1/2	1025	1086
Dieppe	25 —	—	—	—	—
Dutch Rhine	57 57	—	—	—	1210
Montreux and Troyes	71 71	—	—	—	973
Northern of France	211 211	7,142,890	10 1/2	12076	10464
Orleans to Bourges (Central)	107 107	1,229,348	—	4	2643
Orleans to Tours	72 72	600,000	32 6	2902	2030
Paris and Orleans	82 82	2,011,720	31 5	7300	6748
Paris and Rouen	85 85	2,082,916	31 5	—	—
Rouen and Havre	80 80	2,272,176	10 1/2	—	—
Strasbourg and Basle (mouth of Rhine)	88 88	—	—	—	—
West Flanders (ditto)	—	—	—	—	—

* Per cent. — † Interest. — Total for last week, £230,065, being an increase of £5,060 over last year.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars, per oz. £2 11 9 1/2	New dollars, per oz. £2 4 10
Portugal pieces, per 1000, 0 0 0	Silver in bars (standard), per 1000, 0 4 11 1/2

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver bars to Rotterdam, 172,000 ounces; ditto to Hamburg, 10,000; ditto to Belgium, 28,500—Silver coin to ditto, 3400; ditto to Rotterdam, 5000—Gold coin to Mauritius, 3704; ditto to Hamburg, 250—Silver specie to Mauritius, £1000.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending June 2 was—No. of passengers, 13,913.—Amount of money, £27 19s. 6d.

PRICES OF MINING SHARES.

BRITISH MINES.			BRITISH MINES—continued.		
Shares.	Company.	Paid. Price.	Shares.	Company.	Paid. Price.
1000	Abercrombie	8 10	128	South Carolina	5 30
1024	Alfred Consols	8 12 1/2	1100	South Dorset	4 5
1000	Antimony & Silver-Lead	5 5	256	St. Francis, W. Ann	28 30
1024	Ashtaburn United Mines	8 12	256	South Molton	5 15 1/2
1024	Baldewinden	9 18	256	South Trelawny	16 44 1/2
128	Baindon Consols	42 1/2	256	South Trelawny	28 1/2
10000	Barren Iron Co.	6 5	2000	South Wales Mining Co.	1 1/2
1000	Barristown	8 1/2	128	South Wheel Bassett	20 1/2
1000	Bawdon	1 1/2	124	South W. Frances	160 245 50
4000	Bedford	5 1/2 3/4	256	South W. Josiah	—
1244	Birch Tor Tin Mine	9 5	1000	South W. Maria	21 1/2
4000	Blaenavon	50 1/2	10000	South Western, Irish	2 4
5000	Bilalund Consols	1 5	280	Spearhead Moor	30 40
100	Bolton	18 1/2	256	St. Austell Consols	9 1/2
124	Boston	25 1/2	256	St. Francis, W. Ann	28 30
10000	British Iron, New Reg.	12 8	128	St. Michael Peakivel	5 10 1/2
—	Ditto ditto, scrip.	10 10	999	St. Mervin Consols	1 5
128	Buddick Consols	52 1/2	1000	Stray Park	43 1/2
1000	Callington	20 1/2	12	Tamar Consols	3 5
1000	Camborne Consols	6 6 1/2	1024	Tavy Consols	6 1/2 1/2
20000	Cameron's Steam Coal	7 1 1/2	6000	Tincroft	7 11 1/2
256	Caradon Copper Mine	24 1/2	100	Tin Vale	24 1/2
256	Caradon Mines	22 1/2	10	Tobacco	170 1/2
256	Caradon United	24 5 1/2	256	Tregordur	2 3 1/2
256	Caradon W. Hooper	21 1/2	256	Trelawny	14 2 1/2
1000	Carn Brea	15 100	5000	Treleigh Consols	6 2 1/2 1/2
2000	Cartwood Consols	1 1/2	2000	Trevelyan	3 1/2
114	Charnistown	220 1/2	96	Trevelyan	10 12 1/2
500	Comaba	5 1/2	120	Trevelhan	5 15 1/2
128	Conafor	45 53	120	Trevelky and Barri	130 85
256	Conafor	20 1/2	256	Trevelyan	14 1/2
2560	Cook's Kitchen	14 2 1/2	200	United Mines	50 150
1000	Coombe Valley Quarry	3 1/2	256	Wellington Mines	25 37 1/2
1000	Crook Bottom	18 6 1/2	128	West Buller	10 320
212	Crookdick Moor	23 1/2	256	West Caradon	30 120
128	Crook Mores	120 30	512	West Fowey Consols	40 12
500	Cubert Mine	12 1/2	256	West Providence	9 17 1/2
1000	Cwm Eirfa	3 24 3/4	200	West Seton	40 165
300	D. Prior & Buckfastleigh	—	—	West of Scotland Iron Co.	240 90
7100	Derwent	84 5	120	West Trevelhan	5 16
845	Devon & Courtenay Cons.	72 1/2	256	West United Hills	— 4 1/2
1024	Devon Great Consols	1 1/2 190	412	West W. Frances	13 3
1000	Dunard	2 5 1/2	256	West W. Friendship	9 8 1/2
182	Duloch	30 15	3728	West Wheel Jewel	12 1 1/2
2560	Drake Walls	5 1/2 3/4	256	West Wheel Tolgus	80 11 1/2
494	Fowey Consols	40 45 1/2	256	West Wheel Treasury	19 1/2 5 1/2
1024	Freda Lwydd Mines	11 3/4	1024	Whiddon Mines	48 1/2
6000	Gadair	2 1/2	128	Whitwell	45 1/2
4000	Gen. Mining Co. for Irel.	1 1/2 1/2	100	Whitwell	— 20
256	Gonamena	44 1/2 16	1024	Whitwell	24 1/2 2 1/2
128	Gonvrea	4 1/2	112	Whitwell	79 225
256	Graham & St. Aubyn	80 12 1/2	512	Whitwell	5 25
100	Great Consols	1000 120	208	Whitwell	60 1/2 8
312	Gr. W. H. Consols	18 1/2 22	360	Whitwell	6 7 1/2
2000	Gr. W. H. Consols	5 1/2	—	Whitwell	22 1/2
256	Gwynne Consols	7 1/2	210	Whitwell	4 1/2 7
6000	Heigston Down Cons.	11 1/2 1/2	120	Whitwell	41 150
256	Herodsfoot	27 10 1/2	128	Whitwell	60 3
10000	Hibernian	12 1/2 1/2	198	Whitwell	214 250
239	Hobbs Hill	6 1/2 1/2	180	Whitwell	35 250
1000	Holmsham	22 10 1/2	494	Whitwell	42 5
1536	Holme Park	2 1/2 2 1/2	128	Whitwell	10 70
494	Fowey Consols	40 45 1/2	128	Whitwell	10 70
787	Kirkcudbrightshire	84 2 1/2	128	Whitwell	10 70
2048	Lamheroe W. Maria	8 1/2 2 1/2	256	Whitwell	10 70
256	Lanarth Consols	— 4	1024	Whitwell	94 3 4
128	Leland Consols	90 40	92	Whitwell	140 100
100	Levant	— 200	92	Whitwell	140 100
1000	Lewis	16 10 1/2	1000	Whitwell	25 7
1000	Livymnales	8 8 1/2 5 1/2	256	Whitwell	10 60
360	L. J. Iron	50 50	18	Whitwell	60 1/2
256	Louthall Consols	19 1/2 1/2	256	Whitwell	28 1/2 8
6000	Marke Valley	10 1/2 1/2	—	—	—
6000	Mendip Hills	3 1/2 1/2	—	—	—
128	Metha	34 1/2	—	—	—
20000	Mining Co. of Ireland	7 1/2 4	—	—	—
1280	Nant-y-cra	4 1/2 4	—	—	—
256	New East Crowndale	3 1/2 2 1/2	—	—	—
100	North Pool	45 58 1/2	—	—	—
100	North Pool	51 140	—	—	—
262	North W. Lelure	14 1/2 2	—	—	—
256	North W. Lelure	10 10 1/2 12	—	—	—
15000	Northern Coal Co.	23 2	—	—	—
128	Par Consols	55 1/2 650	—	—	—
8000	Pennant & Craigwen	2 1/2 1	—	—	—
1024	Penzance Consols	18 3 1/2 3 1/2	—	—	—
612	Plymouth W. Trelawney	61 1/2	—	—	—
1024	Kingsett and Bedford	1 1/2 45	—	—	—
2500	Rhodesdale & Bacheildon	10 10	—	—	—
10000	Rhydyfelin Iron	5	—	—	—

NOTICES TO CORRESPONDENTS.

* We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

We are compelled to postpone a continuation of the valuable statistical papers on the "New Market in Hungary,"—also a paper "On Gas-Lighting—its Progress and Prospects"—with notice of Mr. Rutter's new work.

"A Broker" (Cornhill).—A full report of the case, with the decision of the judges, will be found in another column.

"J. M." (Kentish Town).—We endeavour, in our answers to correspondents, to give the most correct information we can obtain; on occasion we may be unfortunate in the selection of our authorities. In a science like chemistry, where the improvements of to-day may confound the theories of yesterday, conflicting opinions are liable to occur, and it is difficult to decide without practically experimenting. The notices on the instances referred to, were on the authority of Parkinson's *Memoranda Chemica*, pages 122, 224, &c. This work we have generally found to be correct; it is principally collected and compiled from Sir Humphrey Davy's *Lectures*, and the *Système des Connaissances Chimiques* of Fourcroy; Wollaston, Klaproth, Chevreul, Hatchett, and Abington, are likewise largely quoted from.

ELECTRO-MAGNETISM AS A MOTIVE-POWER.—Since the notice to correspondents, in last week's *Mining Journal*, in which we stated that Mr. Horth's engine probably gave 20 strokes per minute, we have made ourselves further acquainted with the power developed, and find that, during all the experiments, it has never been less than 30 strokes per minute, and 70 has been obtained; whilst its capabilities as a motive-power has been ascertained to be about 14-horse power.

"Mines" (Cambridge).—We cannot inform you whether the Hudson's Bay Company intend sending out any miners to Vancouver's Island. They have the reputation of being very bad colonizers; probably the recent debates which have taken place in the House of Commons on this subject may induce them to adopt some effective measures. The governor of the company is Sir J. H. Pelly. A letter addressed to him would, no doubt, receive an answer.

"F. M." (Dublin).—We have not heard that tin has been found in any abundance in Spain; there are deposits of that metal in Galicia, but they have not as yet been worked. There are lead, silver, copper, and coal mines in several of the Spanish districts. Coal exists in the provinces north of the Douro; but the inertness of the rest of the country, and the unsettled habits of the population, has rendered them careless of its value.

"T. B." (Bipon).—Mr. Brooke Evans, of the firm of Evans and Askin, of Birmingham, possesses nickel-works in Hungary and Norway. The iron-works near Warsaw are managed by Messrs. A. and D. Evans.

George Stafford (Blackwall).—In the vessels which ply on the Mississippi the paddles are made with a clutch, or friction strap, so that they may be thrown out of gear, and the engines may be turned, so as to feed the boilers when the vessel is alongside a wharf, without moving the paddle wheels. The steam-vessels plying on the Mississippi are chiefly built at Pittsburgh and Cincinnati.

"Electricus" (Liverpool).—Prof. Faraday's lecture "On the Crystalline Polarity of Blamuth and other Bodies, and its Relation to the Magnetic Form of Force," was delivered at the Royal Society on the 7th December, 1848, and reported in the *Mining Journal*.

John Slater (Newport).—The following process has been recommended for soldering cast-iron with wrought-iron:—Melt filings of cast-iron with calcined borax in a crucible, then pulverize this black vitreous substance which is thereby produced, and sprinkle it over the parts which are intended to be united; after which heat the pieces of cast and wrought-iron, and weld them together on an anvil, only using gentle blows.

"An Enquirer" (Davenport).—Mr. Cadet Vaux says, the best method of extinguishing a fire in a chimney, is by throwing on the coals in the grate some flour of sulphur, which, combining with the oxygen, forms sulphurous acid, and, being a non-supporter of combustion, as it passes up the chimney puts out the fire.

"F. B." (Colchester).—The exports of British and Irish produce and manufactures from the United Kingdom, consisting of textile manufactures, hardware and cutlery, earthenware, metals, machinery, leather, glass, coal, sugar, &c., were, for the year ended 5th January, 1849, 46,407,939.

"A Draughtsman" (Kilmacshann).—Lithographic crayons are thus prepared:—Pure wax of the best quality, 4 parts; dry white tallow soap, 2 parts; white tallow, 2 parts; gum lac, 2 parts; lampblack, enough to make a dark tint, and occasionally 1 part of copal varnish. The wax is to be melted over a gentle fire, and the lac, broken to bits, is then to be added by degrees, stirring it with a spatula. The soap is next introduced, in fine shavings, and when the mixture of these substances is very intimately accomplished, the copal varnish, with the lampblack, is poured in. The heat and agitation are continued, till the paste has acquired a suitable consistency, which may be recognised by taking out a little; let it cool on a plate, trying its quality with a pen-knife. This composition, on being rubbed with a little oil, will give it the appearance of an amaro blue colour. The texture of the massive is fine-grained, or compact, with a glistening lustre, and is hard enough to scratch glass, though it scarcely gives sparks with steel. It is nearly opaque; its blue colour is not uniform, as it frequently encloses iron pyrites, compact felspar, and quartz. On charcoal it fuses with difficulty into a white glass, when pure; with salt of phosphorus it is soluble, with effervescence, the portion melted burning with great brilliancy; with soda it is partly soluble into an opaque greenish-grey glass, which assumes a red appearance on cooling. If, however, it be calcined and reduced to powder, loses its colour in acid. The finest specimens are brought from China, Persia, Lake Baikal in Siberia, and Bucharia. Lamp-luxul is highly esteemed by the lapidary, but is chiefly important as affording the beautiful pigment, ultra-marine, so highly valued by painters.

"R. H." (Cornhill).—Roasting of the white metal produces black copper; the process generally takes from 15 to 20 hours. After the metal has been allowed to sweat for some time, it is melted down, the slag skimmed off, and tapped into sand beds. Great care must be observed that these are not damp, as, if there is any humidity in them, steam is generated by the hot copper, and an explosion, not unfrequently attended with danger, is liable to occur.

"W. P." (Wych-street).—Old brass-work may be thus cleaned and prepared for re-lackering:—A strong lye of wood ashes, strengthened by a small quantity of soap lye, must be boiled. The old brass-work must be dipped in this, when the lacker will immediately come off. Have ready a pickle of aquafortis and water, strong enough to take off the dirt; wash the brass immediately after in clean water, then dry it well, and re-lack it.

"Minerals" (Cambridge).—Lapis-lazuli is composed of silica 49.0, alumina 11.0, lime 16.0, soda and potash 8.0, oxide of iron 2.0, magnesia 2.0, manganesia 2.0. Its specific gravity is 2.9. It is found massive, sometimes, but rarely, in rhombic dodecahedrons, of an amaro blue colour. The texture of the massive is fine-grained, or compact, with a glistening lustre, and is hard enough to scratch glass, though it scarcely gives sparks with steel. It is nearly opaque; its blue colour is not uniform, as it frequently encloses iron pyrites, compact felspar, and quartz. On charcoal it fuses with difficulty into a white glass, when pure; with salt of phosphorus it is soluble, with effervescence, the portion melted burning with great brilliancy; with soda it is partly soluble into an opaque greenish-grey glass, which assumes a red appearance on cooling. If, however, it be calcined and reduced to powder, loses its colour in acid. The finest specimens are brought from China, Persia, Lake Baikal in Siberia, and Bucharia. Lapis-lazuli is highly esteemed by the lapidary, but is chiefly important as affording the beautiful pigment, ultra-marine, so highly valued by painters.

"A Solicitor" (Chancery-lane).—Writing in common ink may be effaced by diluted oxymuriatic acid, and again restored by dipping the paper in a very weak solution of sulphuret of ammonia, or of the prussiate of potash, to which a few drops of the sulphuric acid have been added. Old writings may be revived, by a similar employment of these substances. To prepare ink which will not be effaced by the oxymuriatic acid, indigo and oxide of manganese may be added.

H. Huntley (Bond-street).—Jet, or pitch coal, is generally of a velvet black; it occurs in elongated reniform masses, and sometimes in the shape of branches, with a regular woody structure; it is visible internally only by transmitted light, and in specimens cut extremely thin; it has then a brown translucent appearance. It presents a brilliant resinous lustre, and a perfect conchoidal fracture; is soft and brittle, and little heavier than water; burns with a greenish flame, and strong bituminous smell, leaving a yellowish ash. Jet occurs principally in marly, schistose, or sandy beds, in several places in France, where it is sometimes found enclosing amber, and near Wilmberg, in Prussia, and in detached fragments in the amber mines on the coast of the Baltic. In England it occurs in aluminous shale, at Whitby, in Yorkshire. It is worked into various trinkets, chiefly used for mourning, but when not sufficiently clean and hard for that purpose, it is used as fuel. Cannon coal receives a polish, and is occasionally made into snuff-boxes, inkstands, &c.

"An Engineer" (Dartford).—The first successful engine which operated by means of a cylinder and piston was contrived by Thomas Newcomen, an ironmonger of Dartmouth, and John Calverley, a glazier of the same place, about the year 1710. This engine, as first constructed, was provided with a casing around the cylinder, for holding cold water, to accelerate the condensation of the steam, and the piston of the piston was covered with water, to prevent the passage of air through it. The steam was admitted from the boiler by a slide valve, or regulator, which was moved by hand, and after the cylinder was filled with steam, water was introduced into the external casing, by which, in process of time, the steam was condensed, and the piston made a stroke. This was, however, tedious work, and the engine was very untractable, until the method of condensing the steam by a jet of cold water was introduced, and the movement of the valves was effected by the engine. The improvements were the effect of accident, and the mode of their development is thus related by Desaguliers:—"In the latter part of the year 1711, Newcomen and Calverley made proposals to drain the water of a colliery at Griff, in Warwickshire, where the proprietors employed 500 horses, at an expense of 90-0. a year; but their invention not meeting with the reception they anticipated, in March following, through the acquaintance of Mr. Potter, of Bromsgrove, in Worcestershire, they bargained to draw water for Mr. Back, of Wolverhampton, where, after a great many laborious attempts, they did make the engine work; but not being either philosophers to understand the reason, or mathematicians enough to calculate the powers and proportions of the parts, they were very luckily by accident found out what they sought for. They were at a loss about the pumps, but being so near Birmingham, and having the assistance of so many admirable and ingenious workmen, they came, about 1712, to the method of making the pump-valves, clacks, and buckets, whereas they had but an imperfect notion of them before. One thing is very remarkable; as they at first were working, they were surprised to see the engine go several strokes, and very quick together; when, after a search, they found a hole in the piston, which let the cold water in to condense the steam in the inside of the cylinder, whereas before they had always done it by the outside. They used before to work with a buoy to the cylinder, enclosed in a pipe, which buoy rose when the steam was strong, and opened the injection valve, and made a stroke; thereby they were capable of giving only six, eight, or ten strokes in a minute, till a boy, named Humphrey Potter, in 1713, who attended the engine, added (what he called *scoggon*) a catch that the beam always opened, and then it would go 15 or 16 strokes per minute. But this being perplexed with catches and strings, Mr. Henry Beilighon, in an engine he had built at Newcastle-upon-Tyne, in 1718, took them all away but the beam itself, and supplied them in a much better manner."

Edward Harris (Canterbury) writes—"In Mr. Landor's *Lofodden*, or the *Exiles of Norway*, he gives a vivid picture of the miseries of the convicts who are transported to the mines of Cronberg. When once sentenced to imprisonment, they never again see the light of day. Can such things exist, in the 19th century, so near our own shores as Norway? I had thought there was a possibility of such tyranny in despotical Russia; but did not believe it would be tolerated in a constitutional country. Can you, in your valuable *Journal*, give me any account of the regulations which are adopted to govern the convicts?—It is not customary for the Norwegian Government to transport their convicts to the mines. The miners are all freemen; they remain underground from six to eight hours per diem. There are no mines of Cronberg, nor is there such a place in Norway. There are silver mines at Kongberg, in the south of Norway. The nearest mine to Lofodden, which is in the north, is the Alten, which is situated about 300 miles to the northward. Mr. Landor appears to have a very limited knowledge of the localities of the scenes he professes to describe; he is a writer of fiction, and appears to have literally made use of the license generally indulged in by novel writers."

Erratum.—In Mr. Birkmyre's last paper, on "Railways and Free Trade," line 33, for 115, read 97 per cent.

* We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the *Journal*.

* It is particularly requested that all communications may be addressed—
TO THE EDITOR,
Mining Journal Office,
30, FLEET-STREET, LONDON.
And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL.
Railway and Commercial Gazette.

LONDON, JUNE 30, 1849.

The *MINING JOURNAL* is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

Instructions have been issued by the SECRETARY OF STATE to Prof. PHILLIPS, F.R.S., and T. R. BAKEWELL, Esq., who have been appointed to inquire into the state of collieries and ironstone mines, the Government thus taking upon themselves to appoint inspectors, without any Legislative authority, and sending them on their mission, without being armed with powers to compel owners and viewers of mines to give them every facility in the discharge of their duties. From the nature of the instructions and the inquiries to be made, it is probable they will meet with much opposition, and every possible evasion will be practised. It is nothing more than a Government commission of inquiry, and we cannot view such a proceeding as anything but a contemptible farce. In the first place, every information which can possibly be collected on the subject, was obtained in 1839, after the explosion at the Hilda Pit, in which 52 lives were lost, by the South Shields committee, when a valuable mass of facts were brought together, previously not generally known, which must have a beneficial effect on mining operations. Numerous inquiries, by Government appointments, have since taken place; and the whole minutiae of the subject is now so well known, that no further light can be thrown upon it. It appears to us perfectly clear that such appointments can only be looked upon as a "job," and as a sop thrown out to quiet CROMBIE. Whatever dreadful explosions occur, there will always be at hand the members of a Government commission to enquire (?) when the mischief is done. However excellent these gentlemen may be in other respects, they are totally unfit for the duties of inspection thus kindly thrust upon them.

We presume these gentlemen, who are certainly not the practical men required, are thoroughly engaged on the duties of their present employments; and it appears an insult to common sense, as well as the colliery population and the public, that when the latter are calling out for the establishment of a rigid inspection, with powers—at least, to endeavour—to keep every colliery in the kingdom in a safe state, they are coolly told that a commission is appointed to inquire into what is already well known. We should like to know why numbers of practical men, who framed the *South Shields Report*, were passed over, many of long practice in the working of collieries, who would have devoted their time to the districts, of known character and strict integrity, and who would have been looked up to by the working collier with confidence and hope, and whose practical knowledge would have been depended on and respected by the owners? Why also numerous competent viewers, who have been nursed in the colliery, and are familiar with every vicissitude and casualty which could possibly happen, should not have been named? Such men appointed to districts, where they would watch over the progress of the workings of every colliery, become acquainted with every detail of each, and, as circumstances require, recommend such alterations, or make such suggestions, as they may believe necessary for the miners' safety; would do more in preventing accidents than a hundred jobbing commissions. It is like every Whig measure—a shuffling, rickety apology for what the public require, and one which that same public will certainly not be content with. We have, however, some little hope of what may result from the Lords' Committee, under the superintendence of Lord WHARFCLIFFE, who have summoned the attendance of some eminent practical men, and the owners of several inventions of acknowledged value in colliery operations, and we trust the end in view is the best application of known means; and not the already too oft-repeated farce of inquiring into causes well known, or those fatal effects which it is our unhappy duty almost weekly to record. While on this subject, we would call particular attention to a communication in another column from Mr. J. RICHARDSON, C.E., of Neath, whose views so coincide with those already expressed by ourselves, and to other communications on the subject.

The past week has been a singularly fatal one—one prolific in the destruction of human life, and what, perhaps, is worse than death, crippling scores for the remainder of their existence. The following is the startling summary of the principal accidents:—

Date.	Situation of Colliery.	Probably killed.	Injured.
June 23	St. Helens	25	19
" 26	Great Bridge, Dudley	25—33	43—62

Thirty-three men and boys instantaneously ushered into eternity in six days, and 62 maimed, the majority of them, probably, for life; and after all that has been taking place, talked about, written, and investigated for 20 years, Sir GEORGE GREY has the temerity to insult the nation with another commission of inquiry. We sincerely hope Messrs. HUME, DUNCOMBE, and AGLONBY, will persevere in pressing forward their bill, whatever be its defects—the Lords' Committee may do much in its modification—and convince the members of her MAJESTY'S Government that the time has now arrived, when this important interest can no longer be trifled with.

In another column we have given a detailed report of the case of *TOLL v. LEE*, which was decided before the Barons of the Exchequer, on Saturday last. This case, which was tried last Spring Assizes at Bodmin, terminated in a verdict for the plaintiff; leave was, however, granted to enter a verdict for the defendant, if the points objected to by his counsel were held good. One point, and the most important to the mining interest, which was mooted on this trial, was the defendant's assumed non-liability, on the plea that his shares had not been legally transferred, by not having the proper stamp affixed to the certificate. The document transferring the shares (a copy of which appears in the report of the trial) was read in Court, and received as evidence. The decision of the judges in discharging the rule has, we trust, virtually settled this hitherto doubtful question; and we cannot but congratulate the mining interest on its favourable elucidation. Had the cause terminated adversely for the plaintiff, the dangerous precedent which would thereby have arisen, could not be otherwise than highly detrimental to all commercial speculation, and fraught with the greatest evils to mining enterprise. The mining interest has for a long period been in a depressed state. This has arisen from a variety of causes, which it would be useless here to analyse; but we submit that, shackled with numerous barthens as it is at present, the attempt to impose more vexatious imposts, especially those having reference to the transfer of mining shares, would have been a measure, to say the least of it, highly impolitic, tending only to embarrass all negotiations, and effectually impede the development of mining industry. The question has often been discussed in our *Journal*; and we have always been of opinion, that stamps were not necessary to legalise the transfer of mining shares; and no later than the 19th of May last did we assure our readers that there existed no cause for apprehension. All parts of the mining community were so deeply interested in the question, that no Minister would be so wild, or so wanton, as to attempt an extortion pregnant with serious evils. By reference to the notice of the Commissioners of Inland Revenue, it will be seen that in default of the consideration money being duly set forth in the deed or investment, the purchaser and seller incur a penalty of 50*l.*, and five times the amount of the duty evaded by the omission; and that the person employed in preparing the transfer incurs a penalty of 500*l.*, and if he be an attorney, solicitor, or writer to the signet, he is on conviction thenceforth disabled from practising. That if either of the parties to the transfer gives information to the commissioners, whereby the penalty incurred by the other, or the quintuple duty, or any part thereof, may be recovered, he is not only to be indemnified and discharged from his liability, but may be rewarded out of the money so recovered, to such an extent, not exceeding one-half thereof, as the commissioners shall think proper. That the purchaser may recover back from the seller, in an ac-

sion at law, so much of the purchase-money as shall not be set forth in the transfer, or the whole thereof, if no part be set forth. We are not disposed to discuss the moral bearings of this or any of the stamp enactments. If such was the law affecting transfers in mining shares, the bait held out to the informer would tend to foster bad faith, and a violation of all those principles of rectitude which should regulate commercial transactions, the rigid observance of which has given us that high standing and proud position which we occupy among the mercantile nations of the world. Business in mines would be more limited, and the value of the shares would be deteriorated in proportion, while the genial spirit of legitimate mining enterprise would be at the mercy of any characterless and unprincipled knave, who chose to adopt the unenviable and degraded position of a common informer. The uncertain position of the question has been, since the promulgation of the law, from all accounts, productive of some little evil, as the more timid were fearful of purchasing property in which they could acquire but a dubious title. The decision of the Court of Exchequer has now determined the question; and the law so ably laid down by Baron PARKE will stand as a future precedent. Mining companies are trading concerns; where no land is assigned no deed is necessary; conveyance of goods—for in that category, ores, machinery, &c., must be reckoned—are exempt from stamp duty; a simple agreement, as in the transfer of merchandise, with the usual stamp is all that is necessary.

At the annual meeting of the SOUTH AUSTRALIAN COMPANY, on Wednesday last, a report was presented (of which we give to-day almost an entire copy), which possesses more than an ordinary interest for our readers. That company, unlike many others, uniformly avoids all puffing, their reports are reliable documents; and, from that one we learn that smelting operations in South Australia "are no longer problematical, but certain." Three works of this kind have been erected, or are in the course of erection there. Of this or, at least, the fact of smelting in the colony, the most undeniable proof was given. Several specimens of copper raised from the company's mines, and smelted on the company's lands, were exhibited at the meeting; also a block of the colonial copper, about 2 cwt., part of a small lot of about 1½ ton, sent for the satisfaction of the board of directors, and for the purpose of trying the English market. The shareholders were informed, by the report, that it had been assayed in London, found to contain from 96 to 97 per cent. pure copper, and had been sold at 68*l.* per ton. A similar quantity had been sent by the colonial manager to Singapore and to Batavia, to try those markets.

These first fruits are from a small smelting establishment erected near the South Australian Company's mine (the Kammantoo), by Messrs. THOMAS, two gentlemen who have had considerable experience as smelters in Chili. But the effects of these colonial operations will be very limited, till the work in the course of erection near the Barra Barra Mine, by Messrs. SCHNEIDER and Co.'s representatives there, come into play. Then a large proportion of the supplies of ore, received of late at Swansea, will be withdrawn. Then the miners and smelters of South Australia will, as compared with those of England, have peculiar advantages in supplying with copper the Indian and Chinese markets. Then it will be seen, whether they may or not interfere with the supply of the English market. It will be simply a matter of calculation, and that, as between the miner in South Australia, who can at the least cost raise and smelt his ore, and deliver his copper in London; and the miner in England, who works his mine at the greatest cost then current. In connection with this interesting subject, we learn, from good authority, that smelting operations are carried on in Sydney or neighbourhood; that a considerable parcel of refined copper had been sent thence to Calcutta, sold at upwards of 100*l.* per ton, and remitted for to London. Similar works are projected in Van Diemen's Land, so that the Australian colonies (where so much enterprise, vitality, and perseverance exist) are on the move in the smelting department, the effects of which on existing interests in England, it is impossible to anticipate.

In common with our contemporaries of the railway press, we have, since the first period of the suggestion being made, strongly urged the advantages which companies would derive from working their lines by contract, and have recorded two or three instances in which Irish lines were worked on such plan at 1*s.* 3*d.* per mile. It is gratifying to find that the adoption of the principle is extending to English lines; and we are now enabled to state that the North Staffordshire Company has just entered into an agreement for working their line on terms still more favourable. The contract before us is for "the maintenance of the rolling stock and working of the traffic of the North Staffordshire Railway;" and we understand 14 tenders were sent in—Mr. WRIGHT, the extensive carriage builder, of Salford, near Birmingham, being the successful competitor. Notwithstanding the terms of this contract are exceedingly low, compared with what the traffic expenses of railway companies have amounted to, it is a fact that at least two of the tenders were 20 and 25 per cent. below Mr. WRIGHT's, and one which most convincingly proclaims the boundless prodigality and extravagance indulged in, and the want of capacity, and absence of care and inspection, on the part of locomotive and traffic management. The contract is for 10 years, terminable on a month's notice from the company, in which case the contractor is to be entitled to reasonable compensation, not exceeding the sum of 10,000*l.*, to be agreed upon, or settled by arbitration. The contractor is, on the termination of the contract, to deliver up the rolling stock, &c., in good repair, and to be subject to a charge, or deduction, to be made quarterly, for depreciation of the rolling stock at and after the following rate:—1½*d.* per mile run for each locomotive engine, or 10*s.* per diem when it shall have been used, and no mileage account kept; ¼*d.* of a 1*d.* per mile run for each first-class or composite carriage; ½*d.* of a 1*d.* per mile run for each second-class carriage; ¾*d.* of a 1*d.* per mile run for each third-class carriage; 1½*d.* of a 1*d.* per mile run for each horse-box, luggage-van, waggon, or other vehicle. The contractor is to occupy and pay a rental on the original cost of the workshops, engine-houses, and carriage sheds, together with turn-tables, rails, sleepers, and tools. He is also to take upon himself all the water cranes at stations, and the company's existing contracts for water, &c. These items, taken at a per centage, will amount to nearly 5000*l.* per annum. The contractor has to maintain and work the locomotives, carriages, waggons, &c., at a mileage rate, and return them at the expiration of the contract in proper working order and condition as they were when they were received by him. He has to employ competent stokers, engine-drivers, firemen, and cleaners, to supply coke, water, grease, oil, lamps, and every requisite for the running of the stock.

The rates of remuneration are to be—For each passenger-train propelled by locomotive power of the company, consisting of eight vehicles, exclusive of engine and tender, if an express or mail train of 40 miles per hour, or if a third-class or stopping train of 30 miles per hour, for each mile so propelled the sum of 1*s.* 1*d.*, and for each vehicle in such train exceeding eight, an addition of ½*d.* per mile run and propelled by such power, and a reduction of ½*d.* per mile in like manner for each carriage less than eight in any such train; and for each goods, cattle, or mineral train propelled by locomotive power of the company of the gross weight, exclusive of engine and tender, of 125 tons, whether conveyed in the vehicles of the company or otherwise, and which shall be timed at an average rate of running speed between station and station, including the starting from the one and the stopping at the other, of 18 miles per hour, for each mile so propelled the sum of 1*s.* 2½*d.*, and for each ton exceeding the said gross weight an addition of ¼*d.* of a penny per mile, with a reduction of the like amount for each ton less than the said gross weight; and for each such goods, cattle, or mineral train, at 12 miles an hour, for each mile so propelled the sum of 1*s.* 2½*d.*, with a like addition or reduction of ¼*d.* of a 1*d.* per mile for every ton exceeding, or less than, the said gross weight.

The company are, in addition, to pay (as we understand) the following sums for or in respect of each vehicle of the company run in trains, whether on the line of the company, or on the line of any other railway:—¼*d.* of a 1*d.* per mile run for each first-class carriage; ½*d.* of a 1*d.* per mile run for each composite carriage; ¾*d.* of a 1*d.* per mile run for each second-class carriage; 1½*d.* of a 1*d.* per mile run for each third-class carriage, break, or luggage van; ½*d.* of a 1*d.* per mile run for each horse-box or carriage-van, truck, waggon, or other vehicle, when loaded; ½*d.* of a 1*d.* per mile run for each horse-box or carriage-van, truck, waggon, or other vehicle, when empty.

We thus give the full detailed particulars of this new feature in conducting railway transit, from the conviction that this first step, which, we

doubt not, will result in positive advantages to the shareholders, will pave the way to other reforms, bring about a perfect revolution in the economy of working railways, and probably, at no great length of time, reduce the cost somewhat 50 per cent. under Mr. WRIGHT'S contract.

One word as to the result of the competition in this case. We are not justified in charging the directors with motives for their conduct, and are, perhaps, bound to suppose they have acted for the best, as we are perfectly aware there may exist many circumstances under which it would not be wise or desirable to take the lowest tender; but if, as stated above, two of the tenders were respectively one-fifth and one-fourth below Mr. WRIGHT'S, if they were from houses of stability and responsibility, who could give the necessary security, and were known as men of commercial activity and perseverance, the shareholders ought to be informed the reasons for the choice, and some valid explanation will be required why they are to be compelled to pay some 12,000, or 15,000, per annum, and which, if the other tendering parties could afford to do the work for so much less, goes into the contractor's pocket as absolutely extra profit, by which alone, in 10 years, he would realise a handsome fortune.

Our attention has been directed to the bill introduced into the House of Commons, entitled "A Bill to Amend the Joint-Stock Companies' Winding-up Act, 1848," ordered to be printed 21st June, 1849. On reading the first clause of which, as amended by the committee, it would appear that the language may be considered as bearing a double construction, or interpretation, but which, it is to be supposed, could not have been the intent. To render this, however, clear, it may be well to quote two passages, which will at once show that they are not in unison with each other, nor are they—at least the first—in strict accordance with the Joint-Stock Companies' Registration Act, 7 and 8 Vic., c. 110, sec. 63, which exempts mines worked on the Cost-book Principle, from the application of the Act.

The particular paragraphs to which we refer are as follows, having reference to the Act passed 11 and 12 Vic. c. 45:—"That notwithstanding anything in the said Act contained importing a more limited application thereof, the same shall apply to all partnerships, associations, and companies, whereof the partners, or associates, are not less than six in number," &c. This would imply that all mining companies worked upon the Cost-book Principle, or System, were included in the bill now proposed to be carried into a law, and thus the exception referred to becomes nullified. This, it is to be presumed, could never be the intent or meaning of the framers of the bill, as all mines worked in such manner have a court of redress and appeal, peculiarly adapted and employed for all cases affecting mining enterprise, where such principle be acted upon. We refer to the Court of Stannaries, ably presided over by Mr. DAMPIER (the Vice-Warden), from whom, in case of appeal, the matter is brought under the immediate notice of his Royal Highness PRINCE ALBERT (the Lord Warden), and being penally exempted in the Act cited, would, in case of being brought under the provisions of the proposed bill, render the court referred to a nonentity, and as perfectly useless; while, at the present time, it is considered one of the greatest advantages which the miner and adventurer, or merchant, possesses, being a court of easy access, with insignificant cost attendant on the proceedings which may be instituted, and ready redress is acquired.

We now approach the last paragraph in the first clause already adverted to. The words are—"Provided, nevertheless, that nothing herein contained shall affect the jurisdiction of the Court of Stannaries in Cornwall." It would thus appear, from this last paragraph, that it was the intention of the bill to exempt the jurisdiction of the Court of Stannaries; but this portion of the clause is opposed to the words first quoted, which would include all mining adventures, and which it was the express object of the former Act (7th and 8th Vic., c. 110) to exempt from its operation. It is only necessary to direct attention to the subject, which is one of infinite importance to the mining interests, and to express our hope that, ere the bill passes the Legislature, such alterations will be made as shall secure to the mine adventurer those rights and privileges which he at present enjoys, but which this bill would wrest from him, if passed in its present form; while it is possible that proceedings might be instituted in the Court of Chancery, in London, to render the association bankrupt, and, at the same time, that measures might be in course of adoption in the Vice-Warden's Court, in Cornwall—having for their object the winding-up the affairs of the company with dispatch and at easy cost. The instance of the ill-advised and mismanaged Wheal Curtis Mine may, we believe, be cited as illustrative evidence of the nature of the two courts.

The preceding remarks we felt it our duty to submit to the President of the Board of Trade (Mr. LABOUCHERE), who introduced the bill; and, although such communication was made at a late hour, arising from absence from England, it is pleasing to find such to have been received and considered deserving of attention—the acknowledgment of the hon. gentlemen being now before us. Having referred to the main points which presented themselves, upon the first perusal of the bill introduced, we have taken some care in consulting parties most interested with mining pursuits, as to the effect which it is calculated to produce, if passed in its present form. Having carefully perused the several Acts, we have arrived at the conclusion that, while mines worked upon the Cost-book Principle are exempted by the 7 and 8 Vic., c. 110, sec. 63—the words of which are, "Provided always, and be it enacted, that nothing in this Act contained shall extend to, or be construed to extend to, any partnership formed for the working of mines, minerals, and quarries, of what nature soever, on the principle commonly called the 'Cost-book Principle'"—without the abrogation of such clause, mines so worked are exempt; and, further, to afford corroborative evidence that such was the intent and meaning, on passing the Act for Facilitating the Winding-up the Affairs of Joint-Stock Companies (11th and 12th Vic., c. 45), in clause 2, it is "provided, nevertheless, that nothing herein contained shall affect the jurisdiction of the Court of Stannaries in Cornwall." The same words, we admit, are used in the present bill; but they are preceded by a paragraph, already cited, which would, in a great measure, render the exemption nugatory.

The Wheal Curtis Mine adventurers, no doubt instigated by their lawyer (for fees are not to be lost sight of, where there is a prospect of their being paid) thought fit to register the company under the Joint-stock Companies' Registration Act, and well have they paid for it. Proceedings were taken in Cornwall in the Vice-Warden's Court, and in the courts of London under the Winding-up Act; expenses were incurred, and but for the good sense and feeling of the Master in Chancery (Master BROUGHAM, if we recollect aright), and the vice-warden, and also the adventurers and creditors of the mine, we have it on good authority that an expense of 6000, to 7000, would have been incurred, besides the machinery being sacrificed, under an order of the court.

We are advocates of the Cost-book System—we are admirers of the Court of Stannaries—and when we state that, during the past 10 years, not more than two or three appeals have been made to the LORD WARDEN, it is the best evidence of the confidence reposed, and satisfaction manifested by those embarked in mines in the county, whether as miners, adventurers, or merchants. Isolated instances have occurred, where adventurers have been sued in the courts of law; but this is a subject we do not purpose treating on at this moment, as it behoves the Cornish members, as well as all those connected with mineral districts, to introduce some measure into Parliament, which, while it strictly defines the Cost-book System, shall also render it of universal practice, and not confine it, as we contend it is at present, to the counties of Cornwall and Devon.

We have, on more than one occasion, observed that the Cost-book System does not extend beyond these two counties, although the late Registrar of Joint-Stock Companies expressed his opinion to us, in a written communication, that all mines worked, whether in Wales, Scotland, or Ireland, were embraced in the exemption of the 63d clause, if worked on the Cost-book System. Companies are formed, and the public are "humbogged" by the statement put forward, that the mines, whether in California or elsewhere, are worked on the Cost-book System; while there are no courts of appeal, or where justice can be fairly meted out. In Ireland we find, however, that such Cost-book System is not acknowledged by the Government, the *ad valorem* stamp being attached to all transfers. We do not advance this but on authority, having, on a late visit to Ireland, ascertained this fact, and may refer to the Mining Company of Ireland as an instance; while the rates there imposed on the adventurer, which are not borne by him in this country, will form subject for another notice. The Cost-book System we believe to be confined to the two counties, and while we object to anything which may be in the slightest degree tending to abrogate, or destroy, the advantages which the miner now

possesses, we are perfectly ready to admit that the bill under notice is most beneficial to mines worked out of those districts, where the principal cannot be practised or observed. We think it only right, where mining adventures are insolvent, the more ready means afforded for closing the concerns the better, and the present bill is well calculated to afford such facilities. In closing our remarks, we have only to repeat that mines professedly worked on the Cost-book System, out of the jurisdiction of the Stannaries' Court, are subjected to the pains and penalties incurred under the Act for the Registration of Joint-Stock Companies.

It will make happy this autumn some of the homes of England if the expedition which left these shores some four years since, on an adventurous voyage of discovery in the Arctic regions, should, released from its frozen captivity by the relaxing heat of this full summer, return to the bosom of that people, and to the welcoming arms of those companions from whom they have now been absent nearly an olympiad of winters. It is, we fear, but too accurately concluded, that the probable safety of the expedition diminishes as the length of its absence increases. But amidst all the fears which there is too much reason to entertain, it is consolatory to know that all the efforts which are within the reach of British skill, and of British heroism, to find and release the sufferers, are at this moment in full activity. No less than three auxiliary expeditions have been sent out from this country in search of the original one under the command of Capt. Sir JOHN FRANKLIN. We are, in fact, storming the icy barrier which separates the temperate from the freezing zone, in the hope of reaching that high northern point, at which it is possible the gallant commander and his followers are detained, and waiting the withdrawal of the frozen bars of their bleak prison to make way south-west or south-east into the open sea. A third expedition has gone out under the direction of Sir J. RICHARDSON to try the overland route, and somewhere to fall in with the missing adventurers in the intermediate longitudes, where neither ships nor detached parties from the sea-going expeditions could reasonably hope to reach them. In addition to what Great Britain is thus doing for the rescue of her own servants, the Government of the United States has sent northward an expedition to second and support the diligent efforts which are being made in that direction by ourselves. If any benefits to science and navigation, or to any of the arts connected with them, should arise out of these labours, they could not in the nature of things be patent to us, but free to the whole world; and for that reason we may reckon the maritime nations of Christendom our allies in these difficult and discouraging tasks, and so we believe they are.

Besides these endeavours, which are no more than the clear duty of our own Government, the captains of the whaling vessels which frequent the higher latitudes within the polar circle have received instructions generally to penetrate into every opening, and to embrace every opportunity which may promise to place them nearer, or afford them any tidings of, our gallant and missing countrymen; so that we may say, that an apparatus of the utmost conceivable efficiency is at work to accomplish that happy result, for which, in England, so many hearts are beating, and so many orisons ascending. It gives to the fortunes of these adventurous voyagers a tender, a touching, an almost dramatic interest, that Lady FRANKLIN, the wife (we trust not the widow) of the gallant officer to whom the command of the original expedition was intrusted, has been making a kind of pilgrimage from port to port, and from shore to shore, exhorting and beseeching the officers of the ships ascending this summer into the polar basin to do their utmost to procure tidings of, and, if possible, to assist out of their difficulties, the men who, for the fame, and in the name of England, have, under circumstances so fearful and so appalling, perilled their lives. At her sole representation the American expedition was sent out; at her solicitation the large Admiralty reward was offered for the recovery, or the help, of the expedition; and she has crowned these dutiful works by offering, from her own purse, 1000*l.* to whoever shall effectually help, or bring news of the safety of the objects of her intense solicitude. For such a woman, whose hands are filled with such works, and whose heart with such charities, no honours are too high, and no praises too profuse.

It is pleasing to find that the life of the collier and miner has at last excited the attention of the Legislature, and our only hope is—to use a vulgar, but common expression—that it will not be the case "too many cocks spoil the broth." We were led to suppose that Government would take some steps for the preservation of life, by introducing an enactment whereby a control would be placed over the working of collieries or mines, without interruption to, or interference with, the coal-owners; but, as Lord DUDLEY STUART very rightly observed, professions are prolific—bills are introduced, read a first and, perhaps, a second time, and then withdrawn, thus precluding the representatives of the nation at large from submitting any measure to the consideration of the House, which might have for its object beneficial results to the community, whether as regards the safety or security of life, or any other object.

It is some time since that Mr. HUME introduced a measure, or gave notice of a bill, for the better ventilation of mines, and other provisions relating to the working of collieries. The ill health of the hon. Member, we believe, precluded him from taking those active steps which are his wont; and hence the bill fell into the hands of Mr. DUNCOMBE, M.P., who, with Mr. AGLONY, has introduced it, the second reading being fixed for the 4th July. We have carefully perused the bill, and have no hesitation in saying that it cannot pass without much revision; indeed, it is not to be supposed that certain clauses therein introduced would be admitted by any one who may possess a practical knowledge of mining operations. We shall, however, see what is to be done with it, if it proceeds as far as a committee, in which case we trust that parties will be examined, and that the merits of the measure will well be entered into.

We find that in the field we have Mr. WYLD, M.P. for Bodmin, and we are well pleased to see that his active mind is directed to the colliery, as well as to the mining districts, with which latter he is so intimately connected. We recommend him caution in his movements, and first to acquire information to the fullest extent, and to be prepared at every point, ere he submits any measure to the Legislature for its adoption. To fail is to do injury to the cause he would advocate; while, if successful in any measure he might advance, he would, we feel assured, have the concurrent good feeling and best wishes, with thanks, of the colliery owner and the collier. It is, we know, hard to steer between the two, from false prejudices which too oft exist; but if an Act be passed, we know full well that we all become passive, and accommodate ourselves, in the best way we can, to circumstances.

It was only on Thursday evening that Mr. WYLD moved for a committee for inquiry into accidents in collieries and mines, &c., when it appeared to some one hon. Member, whose name is not reported, that there were only 38 Members in the House, and, consequently, it was counted out. The motion, therefore, fell to the ground. We can well imagine that the hon. gentleman had some interest, direct or indirect, whereby he would wish such a motion to be swamped; but what can we say for his humanity? We are glad, however, to find that the hon. Member for Bodmin was not bent; for, on looking over the proceedings of the House, we find that he gave notice of motion for introduction of "a bill to enable her Majesty's Secretary of State to appoint inspectors of mines and collieries, and for providing the means of payment for such inspection"—the motion standing for Tuesday, the 3d July.

It will much depend as to the manner in which the hon. Member treats this question as to the advantages attendant; if he pursues the plan which, as before stated, Government have adopted, of appointing gentlemen who, though eminent in their pursuits, are not practical working men, who are most required, then most certainly will he fail in his object. We will just say a word or two as to the notions we entertain on the subject, and merely throw out our suggestions in the rough, that they may be adopted, or otherwise. We would, in the first instance, appoint local inspectors—that is to say, an inspector to certain districts or localities, eight, ten, or twelve in all, as might be considered necessary, but confining them to their particular districts. We would pay them just so much as would render them independent of the colliery proprietor, it being understood that every inspector employed should be a good practical man, acquainted with the nature of the coal fields in his immediate district. It should be provided that such inspector should, at stated periods, to be determined upon, inspect and report on the state of the colliery, and furnish such report to some authority, to be named; and that, in all cases, an application or appeal to the local magistrates, who should be armed with power, should

be deemed sufficient. Plans, we need hardly say, should be kept, and duplicates furnished to the official authorities.

Without entering further into the details on the present occasion, it may be well to see whence the revenue is to arise for payment of these aid officers. This appears to us to be very simple; and if we assume 1500 collieries in work, paying on an average 300*l.* per annum as poor's-rate, then, without looking into their books, tax them at 3*d.* in the 1*l.* per annum, which would realise 5625*l.*—more than equal to the cost of the establishment, or as should be; however, we will return to this next week.

FOREIGN INTELLIGENCE.

The *Rattler*, from Hobart Town, brought 17,263 lbs. weight of copper, in addition to 1390 bags of copper ore from Valparaiso. The *Tepic* also brought 95 bars of copper addressed to a house in town. The *Secret*, arrived from St. Petersburg, has brought 36 bars of gold as a portion of her cargo, consigned to an eminent commercial house.

The United States' store ship, *Lexington*, arrived at New York, on the 10th inst., from San Francisco: she has been absent 35 months, and has in freight from California 1218 lbs. grain gold, having landed at Valparaiso 458 lbs. Total brought from California, 1676 lbs. troy weight, valued at \$370,000. This is believed to be the largest amount of gold shipped to the United States at any one time, previous to the sailing of this vessel. Her advices have been anticipated by Lieut. Beale's dispatches, published in the *Mining Journal* on the 16th.

Papers from Sydney and Port Philip, to a late date, arrived on Thursday afternoon, but they give scarcely a line worth extract. The Port Philip advices report little further confirmatory intelligence respecting gold discoveries, the Government having ordered the mounted police to take possession of and keep strict vigilance over the site where the deposit is alleged to exist. Several specimens are, however, stated to be in the hands of parties who unhesitatingly assert that the locality of the Pyrenees does produce the auriferous metal, and that to a considerable extent. The trade of Melbourne was improving, and the exports the last year exceeded imports by 6800*l.* Business at Sydney remained extremely dull, and there was apparently little prospect of alteration.

By the last Indian dispatches, we learn that it was reported Major Edwardee had been deputed to carry the famous diamond, the Kook-i-Noor, to England, for presentation to the Queen. The story about the discovery of unusual quantities of gold in Sarawak seems to have come to nothing, but it is stated they are constantly finding small quantities in the interior. The settlers at Labuan continued in good health. Mr. Motley, the superintendent of the affairs of the Eastern Archipelago Company, had just arrived, and it was expected that the coal mines would shortly be in active and profitable working. In the *Singapore Free Press* great advantages are anticipated from this circumstance for the commerce of the entire Archipelago.

LABUAN.—Accounts received from this colony to the 17th April represent the place as comparatively healthy on the higher ground where the Europeans reside. Roads in various directions had been completed, or were in progress, but trade there was none; excepting with small supplies of fowls, &c., not a vessel of any description had visited the place for a month, nor were any expected. Mr. Motley, C.E., agent of the Eastern Archipelago Company, had reached the island, visited the coal seam, and looked around him to fix the site of future operations. The coal is now, after a long and fair trial, admitted to be excellent, indeed by far the best ever found in the east: it is already raised to a large amount, and the steamers are supplied with it. The seam, which is 10 feet thick, and runs across the island, is a continuation of a Bornean seam which has been traced from the coast, and runs many miles into the interior of the great island. Some very interesting particulars will be found in a letter from a correspondent, in the *Mining Journal* of the 9th inst.

ON PYROGEN.—No. XI.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSFORD.

Amongst the many phenomena of which the existence of pyrogen seems to explain the cause, the two following are too important to be passed over in silence. First, that peculiar property described by M. A. De la Rive which is acquired by metallic conductors when, being immersed in the liquid as poles, they have completed for some time the voltaic current, in consequence of which, when separated from the battery and plunged into the same fluid, they themselves produce an electric current. Second, the cases detailed by M. A. Van Beek, in which the electrical relation of one metal in contact with another has been preserved after separation, and accompanied by its corresponding chemical effects. These are results that would naturally be produced by the operation of the principles developed in my last paper, concerning the origin of the heat generated by the voltaic current in the circuit wire, and the melting, deflagration, and dispersion of metallic substances by strong charges. To produce these effects the metals must be impregnated with pyrogen, and such impregnation would produce the effects observed in the two cases just cited, which would last until the electric matter with which the metals are impregnated is discharged. The action developed in the above cases cannot be a mere surface action; for if pyrogen were merely on the surface, it would discharge itself at once, to restore the disturbed electric equilibrium. Instead of this, it passes off gradually, as it escapes from the pores of the impregnated metal, producing electric currents. This operation is particularly marked in the case given by M. A. De la Rive.

The origin of the pyrogen in M. Pouillet's experiments with corn plants, seems to be also explained by the principles developed in these papers. That eminent electrician arranged 12 glass capsules, about 8 in. in diameter, in two rows beside each other, on a table, varnished with gum-lac—the capsules also being varnished 2 in. round the lips with lac-varnish. The corn seeds were sown in these in vegetable mould, and the glasses connected with each other by wires, which passed from the inside of the one to the inside of the other over the edges. One of the capsules was placed in communication with the upper plate of a condenser, by means of a brass wire; while, at the same time, the under plate was in communication with the ground. The laboratory was carefully shut, and neither fire, light, nor any electrified body introduced into it. On the third day, the blades appeared above the surface, and the condenser was charged with positive electricity. The electricity cannot, however, be recognised, unless the weather be exceedingly dry, or the apartment artificially dried by introducing substances that possess the property of absorbing moisture. Without entering into the question whether the resulting pyrogen arises from the decomposition of water, or is disengaged with the carbonic acid, as has been supposed, or is developed during both of these operations, or by any other, the existence of the electric matter, and its chemical effects, sufficiently account for its appearance in this experiment—it being released by the chemical processes of vegetation.

Some physiological effects are also readily accounted for by the same means—for instance, the depression of spirits, so generally attendant upon damp and gloomy weather, and the distress experienced by weak and nervous persons on the approach of a thunderstorm. In the first case, it is more than probable that an extraordinary quantity of pyrogen is discharged from the body, through the moisture of the air affording it an unusual facility for escape, and in consequence, the operations proceeding in the system are retarded. In the second case, the sensations experienced clearly have their origin in the disturbance of the electric state of the body—thus proving the truth of the former instance; for it shows the importance and necessity of a peculiar electric state in the body for it to maintain the regular and healthy working of its parts.

The Rev. Mr. Sidney found that a jar of 46 square inches coated surface could be discharged by a blade of grass in little more than four minutes, whilst it required three times that period to produce the same effect with a needle. Mr. Pine had previously observed the existence of the good conducting power of a blade of grass.—(*Proceedings of London Electrical Society*, 1841-2, p. 20). Further, a large piece of wood will discharge a quantity of fluid quicker than a thin brass wire. The cause of this seems to be easy of explanation: pyrogen, like water, requires space to move, and as the rate at which the latter passes through a pipe is regulated by the size of the pipe, so the rate at which pyrogen escapes by a body is regulated by the accommodation afforded—that is, by the proportion of fluid each particle of the body will transmit, or allow a passage for, within a given period. With a good conductor, a comparatively small surface is necessary; with a bad conductor, a larger surface is requisite to pass an equal measure of the electric matter.

THE MINE OF CRONBOURG.—That part of the silver mine of Cronbourg which is called "the depth," is 2000 feet below the surface of the earth. It is a world in itself, distinct and remote from the animated sun-enlivened world with which we are familiar. Hope, the life of the young, dies in a single day in the eternal darkness of those fearful regions whence the captive knows full well he shall never more go forth. The prisoners who are engulfed (most of them victims of the hatred or the fears of the minister, Spielman) have no means of communication with the outer world; charged with state crimes, they are suddenly hurried away from their friends and families, without the latter being able to determine positively whether they have been removed.—*Landor's Lelfelden*.

Original Correspondence.

PRACTICAL REMARKS ON MANAGING AND VENTILATING COLLIERIES.

Sir,—Suffer me, I pray you, to address, through your columns, some hints to influential persons in any way connected with coal mines. I do not wish to occupy your valuable space with repetitions of remarks that have long since appeared in your Journal; but rather to pen some that may be likely to be useful—my chief object being to show that it is possible to prevent colliery explosions. Numerous are the plans and projects proposed to effect the desirable object of avoiding explosions; but unfortunately those proposed or patronised by men of influence are useless; while those which would be found useful, being brought forward by practical, but unpolitical, men, are scouted as absurd, and altogether neglected. As an instance, Mr. G. Gurney's plan of ventilating coal-pits by a jet of high-pressure steam, has found immense favour with Government, and was introduced in the House of Lords last week by the Earl of St. Germans. Combined with it is a plan of forcing carbonic acid gas upon the flame to extinguish the fire. I know very well that both these plans combined will be quite ineffectual to prevent explosions. An explosion of fire-damp is instantaneous; how, then, can carbonic acid gas be made to prevent the explosion? Perhaps, Sir, the nobleman who introduced Mr. Gurney's petition can answer this question; and if not, no doubt his supporters (Lord Brougham, the Marquis of Lansdowne, and Lord Wharfedale) can. But I will not occupy time in criticising further either the motion or the movers; but if that plan be found useless, as I predict, Mr. Gurney cannot complain of want of patronage; and the inutility of his scheme must surely be ascribed to its own defects. But I esteem science disgraced by such proceedings; and I am sure that, when noblemen express an opinion about what they are totally unacquainted with, and recommend at random anything that their friends introduce, it will not increase their reputation for wisdom in the eyes of the nation. Lord Brougham said it was impossible to make the miners use safety-lamps; and, therefore, I suppose, concludes that it is impossible to prevent explosions. Would that Sir Humphrey Davy were alive now to hold a discussion with his lordship upon that point. Waving all this, however, let me calmly examine the question to see how it truly stands. Ventilation is stated by juries, coroners, in the House of Commons and in the House of Lords, to be the only remedy for explosions. The Government Commissioners all recommend ventilation. All these parties evidently imagine that coal mines can be rendered as pure as our atmosphere by ventilation; and that then, of course, there cannot be explosions. No plan has yet been devised by which this can be effected; and mark, Sir, that I do not hesitate in affirming that this will never be done, on account of the difficulties in the way of purifying the air in all the numerous ramifications of an extensive colliery. Small pits may be kept sufficiently pure to warrant the use of naked lights; but large ones never can.

The simplest plan of producing a current of air through a mine is to connect the upcast shaft with a furnace chimney; the furnace to be above-ground, and not in the pit; because when in the pit, there is danger and inconvenience. By this means, the impure air may be drawn off, though slowly. Now, if a colliery have a sufficient number of ventilating shafts, and proper arrangements be made, a circulation of the air may be maintained; but it cannot be rendered so pure as atmospheric air. Among the various mechanical means suggested to remove the impure air, the pneumatic apparatus of Mr. P. Struvé deserves to be ranked first; and, in truth, it and M. De Puy's plan are based upon the only sound principles upon which such apparatus can be constructed—viz.: the impure air is pumped out either through pipes, or up the upcast shaft, after which fresh air naturally rushes down the downcast shafts to supply the deficiency. Those plans which provide for a supply of fresh air being forced into the mine, are absurd. Common sense tells us that, if the air be removed from any given space, the surrounding air will, if permitted, always rush in to fill up the vacancy; and hence the principle to regulate the absolutely best system of ventilating coal mines, is simply to remove the foul air, and to provide passages by and through which the exterior atmosphere can find ready access to the interior. But all these plans have been found insufficient to render the air in coal-pits innoxious. I do not maintain that it is absolutely impossible to purify mines below the explosive point; but it could not be done without a vast outlay of money, trouble, and legislation, which I am convinced the present generation of coalmasters will never submit to; and, consequently, I assert that to ventilate thoroughly is practically impossible. As a proof that the present system of ventilation is ineffectual, I will just remark, that almost every pit in which explosion has occurred, has been represented to be well ventilated; and that if the best system now in actual operation in any colliery in Great Britain were enforced in every other colliery by parliamentary enactments, explosions would no more cease than they have done since 1816, when Sir H. Davy invented his safety-lamp. From these considerations, I conclude that, if the bills before Parliament should be passed enforcing ventilation, the lives of the colliers will not be any more secure than at present. Do I conclude, then, that it is impossible to prevent explosions of fire-damp? No, indeed. It is possible to avoid such awful occurrences, and by means simple and inexpensive. I take it for granted that it is impossible to remove all the foul air from fiery collieries; therefore, the miners must of necessity work sometimes in an explosive atmosphere.

Now, woeful experience has taught us that it is unsafe to work with a naked light of any sort, because flame will always explode the inflammable air. Common sense then suggests the remedy. Since naked flame causes danger, and lamps have been constructed that have been proved safe in any atmosphere, it is evident that, if such lamps were universally employed to light collieries, no explosions could occur. I fearlessly assert, from my knowledge of coal mining management, that an effectual preventive of explosions is only to be found in a more careful working and a better system of lighting. So long as naked candles and lamps are used, or safety-lamps only occasionally, instead of generally, used, explosions will be caused. Unless the fire-damp can be prevented accumulating, and unless it can be removed from pits the instant it is formed, safety can be insured only by a careful attention to the lighting apparatus employed—by seeing that it is properly constructed, and kept in proper order. Three things must be observed—viz.: firstly, the managers of the colliery, where it is customary for them to supply the lights, should provide a sufficient number of safety-lamps for all their miners; secondly, in cases where the colliers find their own lights, the danger of working without safety-lamps must be explained to them, and they must be compelled to provide safety-lamps; thirdly, in all cases the overlookers of the pit must take care that the men both use, and also properly use, their safety-lamps at all times.

From the foregoing considerations, it is clear to me what Government should do in the matter, how far they may judiciously interfere with the management of collieries, and by what enactments they may benefit the condition of the collier, so far as concerns the removing from him all danger of explosion. Although this is not the place to dwell upon the miseries of coal mining, I will only just observe that, had those noble lords who talk so glibly upon this matter ever witnessed the results of an explosion of fire-damp in the mutilated remains of the victims, and the distress and anguish of the surviving relatives, they would not treat it with such cool indifference and lightness. Remove from the collier all possible danger of explosion, and even then their occupation is the most laborious and dangerous in England. Their condition cannot be much ameliorated without the sympathy and aid of their wealthy masters; and as these gentlemen form a considerable portion of the Government and Members of Parliament, I am not inclined to expect much good from Government interference in the matter; and yet I will just point out how the Legislature may do a little good, if so inclined.

To speak the truth, and not to honey the matter, in too many instances there is great indifference manifested by wealthy coalmasters towards that class, without whom they could not maintain their magnificence, and without whose labours their wealth would be fathoms deep in the bosom of the earth. They order the superintendents of their collieries to manage matters in the cheapest possible manner; and all accidents through defective machinery are shrouded in obscurity. The complaints of the miners are unheeded, if ever they do reach the noble proprietor's ears. When explosions occur, the blame is invariably thrown upon the poor colliers themselves, as if they would choose a voluntary death, instead of being compelled to risk their lives through the cupidity of their employers, as is really the fact; then, when a jury is empanelled to sit upon the bodies of any of these poor unfortunates, too often both they and the coroner refrain from passing any blame upon the man of wealth; but censure severely the poor collier. Moreover, when the jury have courage to recommend better machinery and management in any instance, it is quite optional to the proprietor whether he do so or not; there is no law to com-

pel him. The reports of inquests in the newspapers will incontestably prove that these statements are veritable facts. The strong arm of the law is wanted, then, to maintain the cause of the poor collier against the encroachments and oppressions of his wealthy and powerful master. The rich can protect themselves; they need no laws to protect them. Laws, then, that are made on their behalf will be useless. A law is wanted by which the proprietor, or his actual managers, may be held responsible for all deaths that may be caused through want of proper and sufficient machinery and apparatus, or by their neglect in any way. A law is wanted by which the statements of the colliers themselves, who are the individuals best able to account for accidents, shall be admitted as evidence, and have as much weight as though it proceeded from the lips of a nobleman or a Government inspector. No Government inspectors are needed; there only wants a law by which the parties actually causing explosion, whether master or miner, be held subject to law, and be subjected to fine or imprisonment, as the case may warrant. I confine myself now to the prevention of explosions of fire-damp. As these can only be prevented by the use of safety-lamps, instead of naked candles, the law should punish severely all managers neglectful on this point, and so make them obedient to this rule through fear. Depend upon it, the colliers, as a body, will never object to use so simple a remedy. The colliers, though ignorant, are not fools, and will willingly use safety-lamps when supplied to them, and when required to do so. As the colliers are completely subjected to the overlookers, it is these latter gentlemen that the law should be made for, compelling them and their employers, through fear of punishment, to take care that the pit be properly worked. Order can be obtained in works above-ground; why, then, cannot it in works underground? Masters are responsible for the lives of their workmen above-ground; ought they not, then, to be for the lives of the miners? If the law does not make coalmasters guilty of manslaughter, when it can be proved that they and their deputies have been grossly neglectful of the safety of their workpeople, and have thereby caused the deaths of any, no good will be done. As it is, the colliers dare not complain to their masters; and there is no one else willing to hear them, or able to influence the masters on their behalf. It is the masters I address, and it is by the co-operation of the masters alone that good can be done; for such is the power of money, that it can overcome even laws themselves.

Mention having been made of the safety-lamp, and it having been stated that the remedy for explosions lies only in the use of that lamp, I deem it necessary and advisable to add a few words respecting it, and to examine the merits of some of different constructions. I have tried some experiments, with a view of finding out whether phosphorus could be applied in any way to illuminate collieries, but I despair of ever being able to make any chemical compound evolve sufficient light for the purpose. A wire gauze lamp is the only safe lamp that has yet been invented. Wire gauze was first employed for the purpose of enclosing the flame by our illustrious countrymen, George Stephenson, Esq., and Sir Humphry Davy, about the year 1816. In their two lamps the same principle was followed. The lamp is known throughout England by the name of the Davy lamp, and would (if always used, and ever kept in order) effectually prevent explosions. As a proof, in those pits where the lamp is most used, there will be found to have been the fewest explosions (in some none) since its introduction. But, then, this fact stares us in the face, that a great many and murderous explosions have occurred since 1816. This is true; what, then, is the cause? It is twofold; the miners often object to use it, because it affords such a dim light; and some managers refuse to find them, because they are expensive, and cost more than candles. Now, these are trifling objections; and, supposing they are irremovable, it would be the duty of the Government to compel its use. Safety is the main object, and upsets all other considerations. If required, I do not doubt but that the nation generally would willingly pay a higher price for their coal, if the difference were employed in lessening the dangers to which the colliers are exposed. But it is not so; improved safety-lamps have been made and tried, which are not liable to either of these objections. It is but due to Mr. John Crane to place him first among the improvers of the safety-lamp. He has designed several varieties of lamps, to answer different purposes, and having examined some of them, I know not what objections can be urged against them. I have seen one made to give a light that was never seen in a wire gauze lamp before; I have seen another that excels the Davy lamp; and is cheaper than ever a real safety-lamp was offered previously. I consider such improvements of great importance, because eventually they will cause such lamps to be generally used. Now that safety-lamps are brought to such perfection, I consider it time their general use be enforced by law. There is a prejudice against all other lamps but the Davy lamp, and yet assuredly without a cause, because the others are but modifications of that, still retaining its main principle. All manufacturers of safety colliery lamps should likewise be obliged by law to turn out none imperfect. It is often found, moreover, that those parties who consider no other lamp safe but the Davy, nevertheless neglect to use even that. I will warrant, from experience, that it will be found cheaper to get coal by the light of safety-lamps, than to use naked candles. In using safety-lamps, as Mr. Crane maintains, lies the only remedy against explosion. Our tactics above-ground teach us that it is true wisdom to provide and be prepared against an enemy, and that true safety and contentment are insured only by this foresight and preparation. Will not, then, the same rule apply to our collieries underground? An enemy—ah, and a very dangerous enemy—may daily, yea, even hourly, be expected; will it not be wise, then, to be armed to meet him? If not ready armed, we are in constant fear of his approach, because we well know that his coming will be fatal to those unprepared to meet him. The way to be protected against fire-damp—an ominous name, at which colliers shudder—is to be provided with safety-lamps, and to use them at all times, so that when the enemy comes he may be prevented from doing mischief, and not merely to keep them ready for use, well knowing, from experience, that he gives no warning of his approach, and that, therefore, there will be no time to arm against him after his arrival. Other lamps have been invented—some chimerical, and of no use at all. Oil lamps are decidedly best fitted for safety-lamps, because they are less bulky and trouble than candles. The only other lamp I shall notice is one patented by Mr. B. Biram, which is ingenious in many respects, and quite safe—but faulty, inasmuch as it only emits light on one side, and, therefore, leaves the roof of the mine and one side wall in darkness. There should now be no hesitation to use some sort of real safety-lamp, because lamps can be had that will answer every requirement; and I express the hope that ere long the use of safety-lamps will become universal in every fiery colliery, either by compulsion of the law, or by the humanity and direction of the proprietor. Sir, I know this subject, upon which I venture to write, is of importance, and, therefore, I humbly hope that you will not consider my remarks either to be out of place or out of time. If you can find room for them at an early period in your influential paper, you shall have my hearty thanks.—COAL: Birmingham, June 22.

GOVERNMENT INSPECTORS OF MINES AND COLLIERIES.

Sir,—Your able Journal has always supported the interest of mining, and you have duly watched every question touching the welfare of our home mines. The mining community look to you, and you alone, to support their cause, and to encourage the promoters of the Act for the "Better Ventilation of Collieries," &c., and to insist that intelligent practical men should be appointed, so as to ensure the obtaining of the object in view. If the Government nominate individuals who do not possess the requisite practical qualifications, it will only be a source of annoyance to the proprietors, agents, and workmen, without effecting any good.

It will be a very delicate and responsible post, therefore, requiring much discrimination in the selection of men suitable to the respective districts. I admit, what Mr. Hopkins states, that, under existing circumstances, it is difficult to establish such a system of inspection; but I beg to ask him, as a practical man, how are explosions from carelessness to be prevented, but by efficient inspectors having full authority to do so? Mr. Hopkins refers to explosions arising from undulations. I could instance many of similar nature, which, however perfect the ordinary ventilation may be, are susceptible of explosion, and, therefore, requiring something more than the recommendation of the Hebburn jury to remove the danger. A mere mining office of records, in London, and commissioners totally unacquainted with the practical details of the underground works, cannot lead to any useful purpose. Had the explosion been owing principally to the want of an increased draft in the upcast shafts, as some of your correspondents will have it, it would be a very easy matter to pass a law to apply high-pressure steam, or pneumatic machines, to them all, so as to increase the intensity of the circulation; but would this stop the cause of complaint? No. The evil arises from numerous other causes, which can only be effectually corrected by the frequent visits of practical inspectors, with sufficient power, and proper discretion to exercise it. It would be a perfect

mockery to appoint those persons called mining geologists; they may do very well as surveyors, because inexperience in such matters would be harmless, and of little consequence, when compared to the important trust of human life.

Let us hope that your able pen will not rest until such an Act has been obtained as will ensure a greater protection for the life of the collier. Mr. Hopkins must be well aware, from the nature of his occupation, as inspector of mines, what kind of viewers are the agents of the lords of the manors, and what little interest they take in the condition of the poor collier; unless they can obtain something better than their protective sympathy, it would be indeed a forlorn hope.

Flintshire, June 27.

MINING AGENT.

GOVERNMENT INSPECTION OF MINES.

Sir,—Your correspondent, Mr. Evan Hopkins, C.E., F.G.S., also consulting mining engineer, has taken advantage of the recent explosion at Hebburn Colliery to propose a plan, which, although not new, yet coming from a gentleman of his designation, and at the very crisis of Parliamentary inquiry, might be expected to contain some traces of practical application. The evidence on the above catastrophe certainly represented that gas had accumulated in undulations of the mine, which was in that part rendered exceedingly high by artificial cutting, therefore would require extra ventilation; but the evidence also showed that, during many months previous, that part of the mine was quite safe; it is, therefore, reasonable to conclude that the explosion had originated in some failure of the wanted ventilation; but all agreed that, if danger had been apprehended, the ordinary process would have removed it. Therefore, Mr. Hopkins's gas-pipes would not, under the circumstances, have been applied. The term, "goaves," made use of by Mr. Hopkins, applies to the space left after the coal has been entirely removed; but in this case the pillars were all open and up-standing, and the place where the fire is said to have originated had been a current tram-way for many months.

The undulations spoken of at the inquest extended over a considerable area, and, therefore, were totally inapplicable to any piping arrangements; and it will, I doubt not, throw a new light upon the subject, if Mr. Hopkins can show by what means he would prevent the air of the mine from entering the pipes which he would wish to be occupied in carrying off the gas. If difficulty applies to the piping off such a diminutive space as here exhibited, how utterly impossible must it not be to apply the system to many acres of goaves. Mr. Hopkins must understand that the modern science of colliery viewing is founded upon practical philosophy, which teaches the following principles:—1. That the air of the mine will naturally rush to the nearest outlet.—2. That any pipe leading to the upcast pit, and having its orifice open in the workings, will be constantly filled with the air of the mine rather than the pure gas, which cannot be apprehended except by complete insulation.—3. To insulate a set of workings, in order to convey away the gas is impracticable; for it would convert the space into a magazine. How much more impossible is it to insulate a goaf?—4. Therefore, without noticing the expense, the notion of piping may be pronounced impracticable.

The northern viewers are all up to the damming up and piping away of blowers, or wastes, where the gas can be insulated, for this is a subject of ordinary practice; but adulterated air, in the ordinary working of mines, cannot be dealt with in any such manner. Notwithstanding the often repeated theories of piping, full and adequate ventilation, conducted through the workings with judgment and science, must still continue to form the grand basis and desideratum of Parliamentary legislation, the safety-lamp being reserved for special occasions.—D.: Newcastle-on-Tyne, June 26.

P.S.—Since writing the above, I see that another dreadful explosion has happened, near St. Helen's, Lancashire; it is to be hoped that this event may act decisively upon the present Parliamentary movement.

BILL TO PROVIDE FOR THE BETTER VENTILATION OF MINES.

Sir,—Your correspondents, "Black Diamond" and Mr. Evan Hopkins, have scarcely sufficiently appreciated the great difficulty there is in legislating upon this important subject, so as to produce a good and efficient measure, applicable to all districts. It is well known that different systems of working, weighing and measuring, paying, &c., are pursued in the several coal-fields of the kingdom; in some parts it is the custom to let the working of the coal to contractors, or butties; in others it is the practice to pay the men by the day; the most prevalent mode, however, is to pay them by weight, or measure. The customs, or bye-laws, are also as varied and dissimilar as the districts are numerous. The understood, or expressed, conditions on which the men are engaged, and to which they are obliged to conform, are also very different; and, indeed, there is such an absence of uniformity in all these matters, which are of the first importance to the collier and miner, that it will be scarcely possible to remedy acknowledged abuses which prevail in one district, without inflicting what may be thought to be unnecessary interference in another. Freely admitting that the bill is quite capable of improvement by omissions, alterations, and additions, yet there is much that is excellent in it, and which, if passed into a law, can scarcely fail of accomplishing much real good. To devise a measure of this kind, that will be both efficient and unobjectionable to all parties, is an impossibility, and we must, therefore, be content to take a law somewhat short of absolute perfection. Yet this is no reason why we should not discuss the merits of any bill, and even oppose it, if we think it likely to produce more evil than good, or that it is incommensurate with our requirements. Bills are usually materially modified in committees, and in passing through the two last readings in Parliament; and there are too many coalowners in both Houses to permit this bill to be exempted from alterations, which, it is to be hoped, will be improvements. As far, therefore, as the interests of the coalowners are concerned, there is nothing to fear, whatever apprehensions there may be as to that of the other party concerned in this measure.

"Black Diamond" refers to a few clauses which he terms "the most objectionable and impracticable," and seems to anticipate "evil results," should they become law. He first names the ninth clause, which relates to accidents inflicting personal injuries. This clause might be modified, so as to be unobjectionable to one party, and advantageous to the other. Some provision of this kind is certainly required; for many men are now wounded, or contused, so as to render them incapable ever after to earn a livelihood, without receiving any relief, or attention, from the owner, or managers, of the mine. It is evidently expedient that such cases should be reported to the inspector, and some notice of them taken by him. Were the time (12 hours) for giving such notice extended, and the surgeon's certificate as to the nature of the injuries first obtained, your able correspondent's objection to this clause might possibly be diminished, if not overcome; for knowing, as he doubtless does, the amount of privation and suffering which is now hopelessly endured from this cause, he cannot mean to deny a remedy for it, because it may be liable to abuse.

Neither can clause 21 be carried into effect, which provides that the wages of colliers are to be paid by the actual weight of the coal brought to the surface, and not by measurement, &c. In making this comment, "Black Diamond" has fallen into the error of supposing that to be impracticable which is not done in his own locality. In this district it is not only practicable, but the general custom, for the wages of the collier to be so paid, and a similar mode of payment prevails extensively in other districts. In the northern (Newcastle) district the men are paid on what is called the average weight of the coal brought to bank. This average is obtained by weighing two tubs in each score, there being two weighers, one appointed and paid by the owners and the other by the colliers—so that both weighing and measuring are here resorted to, the weight determining the capacity of the measure. In many districts the mode of weighing and measuring has given rise to much discontent and disagreements between the colliers and their employers, and to frequent "strikes," with all the ill effects consequent thereon; the bill, therefore, would have been very incomplete without some provision relating to this subject, and any inconveniences which may arise from it will be more than counterbalanced by the benefits to be obtained from it. It is proposed in this clause that beams and scales only shall be used in weighing the coal, which certainly will be attended with inconvenience, and might be modified, so as to permit coals to be weighed by machines properly constructed, and subject to the examination and approval of the inspector.

The payment of wages is also very properly noticed in the bill; but the policy of making these weekly, as proposed, is certainly questionable. In the large collieries in the north of England, and in some other places, the wages are paid fortnightly, and this term might advantageously be substituted for weekly payments. That the men shall be individually paid in money is another condition which is objected to; but the arguments advanced against it are insufficient to convince the writer (who knows from experience that such a plan is practicable and easy) that this proposition should be omitted from the clause.

"Black Diamond" is evidently labouring under great misapprehension as to "the proposed plan for laying the income requisite for the working of the machinery of this Act," which, he adds, "will be thought by many inquisitorial and unfairly burdensome, especially on large concerns." If he will turn to the 29th clause he will find "that the expenses incurred under this Act, &c., shall be paid and defrayed from and out of the Consolidated Fund of the United Kingdom."

Your correspondent contends that it is neither "practicable nor just" to make the agents responsible, even though it be proved that the accident arose from their own carelessness, incompetency, or inattention, but that the legal responsibilities and profits of the concern ought to be held sacredly indisputable. There certainly would be greater injustice in not permitting the owner in some cases to relieve himself from these responsibilities, when it can be fairly and honestly done; otherwise, it is giving the agent a power over the property of the owner, which might be employed to disastrous and ruinous purposes.

It is a well-known fact that "the truck system" is extensively pursued in some mining districts, and the existing laws are evaded and violated with impunity; whilst some coal-owners derive an income of from 1200l. to 2000l. a year by the profits imposed on the necessities of life consumed by their workmen, who are obliged to take the goods, and pay a higher price for them than is demanded elsewhere. The demoralizing practice of paying men in public-houses, or in paying them in such a way as to render it necessary for them to resort there to obtain change and divide it, is also very prevalent, and highly injurious to the workmen. With the knowledge of such facts before us, it must be confessed that some such provisions as are contained in this bill are imperatively required, and that it would have been very imperfectly "drawn" had such important matters been omitted. One good effect which will result from this, or some other such bill, becoming law, will be the institution of greater uniformity in the policy, economy, and general mode of conducting collieries in different parts of the kingdom; but to ensure such a result, what some may consider to be "petty questions" must not be overlooked, for in no occupation do "trifles" so essentially "form the sum of human things" as in mining operations.—J. RICHARDSON, C.E.: *Neath, June 27.*

ST. HELEN'S AND GREATBRIDGE EXPLOSIONS.

SIR.—One of these catastrophes being in the thin coal of Lancashire, and the other in the 30 ft. seam of Staffordshire, afford vast food for reflection. In the former, according to the inquest, the explosion occurred from the long practiced obstinacy of one of the colliers, although his conduct of working with his naked light, instead of a safety-lamp, seems never to have come to the knowledge of his employers, although well known to his fellow-workmen, which is somewhat strange, and exhibits a pretty strong proof that the staff of management was deficient to direct who was to use candles and who lamps, instead of leaving it to the discretion of common colliers. The manager inferred that Government inspectors could not control the colliers; but Government inspectors could see that systems and arrangements were according to the best of practice, and they would not be charged with details. In the other case, it was occasioned by the doggy, or manager, unscrewing his lamp whilst the colliers were busy "brushing out" the sulphur from the working places, which is done by jackets, or other such like operations—the effect of which is to stir up the stagnant gas, and so convert the whole atmosphere of that place into a highly explosive mixture, unless instantly carried off by active ventilation. This pit was conducted upon the doggy system, being somewhat like the overman and deputy system of the north of England; but the mine was worked according to the general custom of Staffordshire. However, now that the latter is to be subjected to the examination of Government commissioners, it will be important to see what conclusions they come to, and whether their report makes for or against the proposed legislation; and they will form important evidences before Lord Wharmcliffe's committee. The proper questions to be raised are—1. As to the propriety of each system.—2. As to whether, practically speaking, the arrangements were duly provided for. A VIEWER.

Durham, June 28.

"DAMMING" BACK WATER.

SIR.—In your valuable Journal, of 28d inst., is a letter, signed "A. B.," South Wales, wishing information as to a plan to dam back water. I, as a miner, have known as much as 270 gallons of water per minute "tubbed" back. Whatever size your drift, or mine, may be, either in cast-iron, stone, or wood, one pipe or two should enter into the dam, the top of the pipe to be taken 4 or 5 ft. above the level of the water, so as the air, or the different sorts of gases, may have liberty to pass through the pipes, which air, or gases, by escaping, will prevent the pressure from coming on the dam.—FOSTER GRAHAM: *Cambuslang, June 25.*

The best method of "damming" back water being of much importance in colliery operations, we are induced to reprint a letter on the subject, which appeared in our Journal of the 18th June, 1842, from Mr. Matthias Dunn, the well-known viewer, of Newcastle-on-Tyne:—

SIR.—Having lately had occasion to contend against a spring of water met with in Evenwood drifts, at the depth of 86 fms. from the surface, I take the liberty of sending you an account of the method that was taken to dam it back.

The two drifts, A. B. were each six feet wide, and six feet high; a place, therefore, was selected where both coal and stone were sound, and the position of the dam prepared to suit the sweep of intended dam, a frame of oak, eight feet square, was then inserted, being carefully fitted to the chamber with tarred flannel, and the intermediate space filled with cast-iron segments, formerly intended for a nine-foot shaft, between each segment being filled up with slit deal for wedging in; the centre joints were also broken by inserting wooden plugs, also fitted for wedging. Inside the said dams were placed strong stays, to prevent the dams from wedging inwards; and in each dam was provided a man hole 12 inches square, to allow the workmen to pass in and out during the process. A leaden pipe was also inserted from the top of the highest dam to the most elevated part of the drift B, whereby to discharge the air whilst the space was filling with water. The dams being thoroughly wedged with wood

at every joint, the wooden key-pieces were drawn forward, and the space within gradually filled with water, discharging the air at the same time. At the end of 24 hours all was tight, and the pressure allowed to take its course; the wedging has since been completed, and almost every leak stopped; therefore, taking the altitude at 80 fms., and each dam 8 ft. square, it gives a pressure of about 6½ atmospheres, or 97 lbs. per square inch—being upwards of 400 tons against each dam. Each segment is 80 in. by 4 and ½ in. thick, with 2½ in. flanges.

COPPER SHEATHING.
SIR.—In Mr. Merry's letter, published in last week's Journal, he expresses his wish to contribute his mite to the elucidation of this important subject, if he could possibly find out what was wanted. In a letter from the "Roaster Man," published in your Journal of the 28th April, he states—"If Mr. Pridemore will inform me, from what experimental and theoretical experience he has had of smelting, how we shall bring forward our metal through the different stages, and making it as fine as the 'prill' produced by the assayer from the ores, and, at the same time, retain our 12 per cent. surplus copper, I will at once give him such information as will guarantee the make of a good quality copper for sheathing." In my letter of the 25th May, published in the Journal of the 9th inst., I respectfully requested that the "Roaster Man" would define what he meant by "swelling the surplus." If unwilling to do so, I at least expected he would have honoured me with the courtesy of a reply; every one who has hitherto taken part in the question, to my thinking, has cheerfully and willingly added their quota of information to the general stock. I think we must all agree that, as far as Mr. Pridemore is concerned, he has shown a great desire, on every occasion, to elucidate any point which has occurred during the discussion of this important subject. I do not think it fair that he should be required to give all his information without receiving a fair *quid pro quo*. We are all aware that the assayer can make his prill finer

the crucible than the refiner in his furnace. This is done by the addition of expensive fluxes and a neat manipulation, which cannot be practised on a large scale. I have been some years a practical as well as theoretical smelter, and am conversant with all the operations—from calcining the ore to refining the copper. I do not arrogate to myself any superiority over my fellow-craftsmen; I am willing to impart any information I possess whenever called upon, and, at the same time, I am not too proud to receive knowledge from whatever source it may be derived, or so sensitive as to shrink from refutation when I am in error. In my humble opinion, the question at present rests with the "Roaster Man," and I have no doubt, if he clearly defines his meaning, we shall be able to renew the argument, start from a fresh point, and by comparing the results of our several experience, bring this long and interesting discussion to a useful and practical termination.—GERMANICUS: *June 23.*

RAILWAY PRODIGALITY—No. III.

SIR.—In the construction of railways, the system of contracts is generally, if not universally, pursued. Such a plan has many advantages, although exposed to great abuses; and it is very questionable whether any saving to the company is effected by it. The engineer and his assistants are saved much trouble and great anxiety when the work is performed by contract, and are relieved from a large amount of responsibility. But the large fortunes which are so rapidly made by contractors, speak very intelligibly as to the extent of the profits derived from the construction of railways by contract. It is the common practice for large contractors to sub-let the work into a number of smaller contracts, and these sub-contractors again re-let the work to others, so that there are at least three profits obtained on the actual cost of the labour performed. One of your contemporaries says, "we have heard of a contractor clearing 30,000l. by one contract, taken at the engineer's estimate;" and the writer has known one that had scarcely sufficient capital to purchase the requisite "plant" at the beginning of his contract, able, at its conclusion, to give the company two years credit on a balance due to him of upwards of 20,000l.; and of another, who cleared 100 per cent. profit on a contract, extending over about 30 miles of railway. Upon this subject *Herepath's Journal*, already quoted, says:—"Railway shareholders can have no notion of the plunder that has been committed on them under the system of private contracts. We must, however, in *limine*, exempt some of the companies from this system. Mr. Glyn, at the last meeting, called particular attention to the fact that they (the London and North Western) let all their contracts by public tender, and justly took credit for the plan. Most of Mr. Hudson's lines do the same. Whatever may be the faults of this gentleman in other respects, against whom it is now the fashion to clamour, we are not aware that he has ever descended to that practice of participating in contracts, which has disgraced, past redemption, more than one of our boards, and enriched with wealth and infamy others. Can any one imagine men to rise in a few years from the dunghill to be millionaires, and their patrons, the engineers, become lords of extensive domains, by fair trading and legitimate profits? If he can, we shall be glad to know how it is done. A leaf out of such a book would be worth something."

This paragraph is rather strong, and very severe; but it must be confessed that, for two or three years, rumours of transactions of this kind have been bruited abroad, and gentlemen of lowly origin having suddenly become great and wealthy, has given a tinge of credibility to such accusations. It is very probable that the gentlemen alluded to have never heard anything of these rumours, or, if they have, are too careful of their own quiet enjoyment of the riches they have acquired, to disturb their peace by supposing that such arrows are sped at them. Be this as it may, the committees of investigation might possibly find much that is interesting in pursuing a rigid inquiry into this subject, as well as into contracts generally, which, if productive of no other benefit, would, at least, serve to point out the way to avoid similar prodigality in future.

The vast wealth acquired by certain persons in this way, clearly proves that the companies have given exorbitant prices in public, as well as in private contracts, and that it is high time some check should be imposed on a reckless extravagance, which benefits a few favoured or fortunate contractors, at the expense of the shareholders. This can only be done by giving the proprietors a greater control over the proceedings of the directors; and it is worth consideration how far it would be expedient to permit the shareholders to be present at, but not take part in, the meetings of the board. The council chambers of the municipal corporations, and the rooms of public commissions have been opened for the admission of the public, and the reporters of the press, with acknowledged benefit to the rate-payers, and without injury to the public bodies, which, in past times, sat in deliberation with closed doors.

A more certain method of extirpating all jobbery, and ensuring an honest and efficient administration of railway affairs can scarcely be devised. Such a proposition will, doubtless, be met with strong objections, and by a powerful opposition from those interested in the present system of secrecy and virtual irresponsibility. Much will probably be said of the incompatibility of such a mode of conducting the business with the interests of the company, and all the arguments that were worn out in the service of the old corporations will be re-furnished and new pointed for the occasion.

The shareholders have only to refer to the results of the prevailing system to find ample refutation for all the sophistry which may be advanced against opening the doors of the board-rooms for their admission. The whole evils of malversation, cooking accounts, misappropriation of funds, reckless extravagance, jobbery, and other high crimes and misdemeanours which have been charged against the boards, may all, very safely, be attributed to the secrecy with which their proceedings have been conducted. Had the meetings at which these things were perpetrated, or said to have been perpetrated, been accessible to the proprietors, and the representatives of the public press, no such disgraceful conduct as is attributed to them could have been tolerated, or even surmised. The characters of the directors, too, would be preserved from unjust aspersions; for it is an old saying, that where there is secrecy there will always be suspicion.

Without some measure of this kind being adopted, no real and effective reform will be made in the expenditure of the companies' money; no matter whether the contracts be what are called public or private, opportunities for gross jobberies will exist; and we must judge much more favourably of human nature than experience justifies, if we suppose that such opportunities will not tend as materially to damage the reputation of future directors, as they have sullied the fair fame of the past ones. The virtue of the boards would be preserved by dismissing temptation, and the happiness of the shareholders would be promoted by increasing the security of their property, and removing all jealous doubts and fears by which they are now harassed and tormented.—F. G. S.: *June 25.*

RAILWAYS OVER MOUNTAINS.

SIR.—An ingenious arrangement is about being carried out in this neighbourhood, which, if successful, will probably be followed in districts where a scanty population would not justify the costly expenditure in the formation of an ordinary railway. An engine is to be placed on the summit level of a road, cut over the mountain between Blaenavon and Abergavenny, to draw up loaded carriages, waggons, &c., which will be allowed to descend on the other side by their own gravity, guided by the engine, which mode is expected quite to supersede the old road cut through the mountain. If this plan is found successful, and here the opinion is that it will, I would suggest that the principle should be carried out from Abergavenny to Cardiff, over, probably, 20 mountains, in an east and west line; and as the road would be nearly a straight one, there would be a great saving in time and distance, and passengers and merchandise could be left at all the intermediate places. Such an arrangement across the South Wales mineral basin would be productive of great advantage. Blaenavon, June 25. T. DEAKIN.

BRITANNIA BRIDGE.

I observed in your last week's publication some interesting accounts of this stupendous affair, and was struck with astonishment to observe, as I apprehend, that each of the large tubes, four in number, is of the enormous weight of 1600 tons! and I observe it stated in some prints, now publishing, that the weight of each main tube is 1800 tons. Presuming your statement to be the correct one, then the four main tubes will be upwards of 6000 tons. Now, I contend that the amount of wrought iron, properly arranged and combined, for two bridges, to effect the object for which this 6000 tons of iron is applied, need not to have been more than 2000 tons; viz., that 1000 tons of iron is amply sufficient to construct a bridge 460 feet long, 36 feet wide, capable of sustaining, with perfect safety, a load double its own weight, or upwards of 2000 tons, if arranged on the plan and principle of the projected Clifton-bridge, an engraving and particulars of which appeared in your publication of May 22, 1847. Now, let us make some comparison as to the difference of cost. I estimate that 2000 tons of iron might, in the present state of the iron trade, and could be manufactured, and finally fitted and fixed in the required situation, at not exceeding 20l. per ton, which would be 40,000l.; but, from the expensive mode or plan of the tubes of the Britannia-bridge, I presume it cannot be estimated at less than 30l. per ton, which will amount to 180,000l., or nearly four times more than there was any absolute necessity for, according to which, on less than two thirds of the structure, 140,000l. will be unnecessarily expended; but if the actual difference was only 100,000l., I cannot but think that the adopting such expensive modes, like the celebrated broad gauge, is making the proprietors pay "too much for their whistle," as economy, utility, or advantage, appears not to have been attained in either case.—THOMAS MOTLEY: *London 6 mo. 26.*

P.S. The object might have been attained at, perhaps, even less cost, by adopting the principle and mode of the suspension bridge over the Avon, at Twerton, near Bath, erected 10 years ago, and which is pronounced by many eminent mathematicians and engineers to be the firmest suspension

bridge ever constructed, embracing economy and stability, is, therefore, superiorly adapted for railways, which plans might be effected without the aid of scaffolds or centering.

FELL'S COMPRESSED-AIR LOCOMOTIVE ENGINE.

SIR.—I noticed your description of the above proposed compressed-air system for railway propulsion with pleasure, as I perfectly agree with your remarks on the unscientific nature of the plan, which it is certain, can never be carried out in practice; and I am only induced to request the insertion of a few remarks in your valuable columns, from seeing an attractive description, with diagrams, in the *Railway Record* of last week—being, in fact, a mere reprint of the prospectus; and although it is certainly not editorially puffed up, is calculated to mislead, and probably induce unwary persons, without scientific knowledge, to embark in the undertaking, under a belief in its likely success. The more this proposed system is examined, the more frequent do clear and valid objections arise; and, in addition to the well-known difficulties—indeed, I may say impossibility—of working compressed-air for motive power economically, which you have explained, there are points which it would be wise for the promoters to consider, and weigh well, before they throw away their capital irretrievably. As it is proposed to work at 50 lbs. pressure to the inch, the pipes must be of enormous strength (and consequent cost) to withstand such an internal pressure exerted outwards, and not assisted by the arch form of the pipe, as in a vacuum, where the pressure is without. The securing the necessary contact of the slipper-valve with the air-chamber as it slides over them, to prevent escape of power, must be productive of enormous friction at the lowest speeds, and at high velocities they would fly off like heads of corn before the sickle. The numerous valves in the slipper-valve, and the expansion and contraction of the tube joints from changes of temperature while under such pressure, will be continually productive of leakage to an enormous extent; and, however pretty the so much lauded model may work, the parties will find, on a full working scale, that they have a power to contend with totally beyond control, and worthless for industrial purposes. The great secret of successfully and economically appropriating the power of the atmosphere to mechanical purposes, is in employing moderately low pressure, even when adopting the system of exhaustion instead of compression, and I have no doubt but that in another year this theorem will be found correct, from the actual working of an atmospheric line on a well-conceived and thoroughly matured plan, about to be adopted near London. C. C.

Threadneedle-street, June 26.

LARGE TUBULAR IRON GIRDERS FOR RAILWAY BRIDGES.—While the greatest interest is being excited on the western coast of England for the successful fixing of the Britannia-bridge, much curiosity is aroused in the north-east by the formation of a girder bridge of somewhat similar construction, the rails being fixed upon them instead of the inside, which is to cross the Trent at Gainsborough on the line of the Manchester, Sheffield, and Lincolnshire Railway. Two principal hollow girders form the parapets of the bridge, and the roadway is supported by transverse wrought-iron hollow beams, or tubes, rectangular in section. This bridge was designed by Mr. Fowler, and the tubes have been constructed by Mr. Fairbairn, of Manchester. The stone-work consists of a centre pier, and two elliptical arches of 50 ft. span each, terminated by the usual land abutments. The iron-work consists of two spans, together 398 feet, which gives a total length to the bridge of 460 feet. The principal girders are each 336 ft. long, 12 ft. high, and 8 ft. 1 in. wide, having their tops formed of cells 18 in. wide, and 12 in. deep, to resist compression, and the bottom of double riveted plates, to withstand tension. They are fixed securely on the middle pier, thus covering both spans; and their ends are supported on the land abutments upon rollers, resting on cast-iron plates embedded in the masonry, thus admitting of expansion and contraction. On the outside of the girders two curved lines of angle-iron are riveted, which gives it the form of two arches, and adds much to the symmetry of the structure. The two principal girders weigh 300 tons; transverse beams, 4 ft. asunder, 82 tons; cast-iron, 10 tons—making a total of 392 tons. The girders were constructed on one of the embankments, and hauled across into their positions on rollers—a feat of some difficulty, as one end of the girder would have no support for nearly half its length before it reaches the assistant resting-place of the centre pier. The first girder was, however, securely fixed the latter end of last week, and, ere this appears, it is highly probable the other will be in the like position. It is confidently believed that in less than a month trains will pass over the bridge, and thus bring into intimate connection the Humber and the Mersey, and afford facilities of transfer to these centres of commerce and manufactures.

ACCIDENTS IN RAILWAY TRAVELLING.—LORD CAMPBELL'S ACT.—Some two or three months since, we took occasion to disagree with the premises and conclusions of one of our contemporaries, who, among other matters pertaining to the same subject, had convinced himself, if he did not make converts of his readers to the opinion, that Lord Campbell's Act provided the public with the most certain and appreciable means of remuneration by "liquidated damages" in the event of accidents caused by the negligence of principals, or of parties in their employment; and that, therefore, such an establishment as the Railway Passengers' Assurance Company was a practical absurdity, a thing to be sneered at, a proposition not to be understood. This dogmatical genius had, of course, assumed the impossibility of any human calamity taking place without the existence of provable human perpetration, or connivance. Every sort and degree of suffering, according to (possibly in accordance with) his notions, must be the consequence of "malice aforethought," and ought to be avoided by anybody, or, if unavoidable, should inevitably lead to the detection and punishment, fine or forfeiture, of somebody. Our quondam friend was never troubled with the private or public visitations of that sad fellow, "nobody," who has done quite as much mischief in the world as all the recognised "busybodies." By no chance, either, did he ever hear of such a thing as a "chance-medley." Happy innocent!—wonderfully acute caterer for the reading public! Well, in all humility, we ventured to dissent even then from this philosopher of a very new school. We stated our humble belief to be that there really does exist in this mutable world of ours, a vast amount of personal mischances purely accidental, and against which generally it would be well to be provided, as far as remedial appliances could be found; and that the mechanism of railway locomotion, its extensive use, rapid rate of transit, and other contingencies, peculiarly and absolutely called for such a mode of insurance, as would compensate, to the fullest possible extent, those who became sufferers from the effects of collisions, running off the lines, break downs, and other damaging adventures that must occur under the most vigilant superintendence;—and our contemporary was silent. What will he say now, the most learned pundits of the law having discovered that Lord Campbell's Act is largely inoperative, ultra railway casualties, upon points that may render the operation of the law in railway cases very doubtful indeed? It is evident, from recent decisions, that Lord Campbell's Act will have to be amended in the next session of Parliament, say the preambulators of Westminster Hall; but whether it be so or not, we shall be well pleased to pay some one or other of the premiums asked by the Railway Passengers' Assurance Company, ranging, as they do, from pence up to a pound, and exempt, as they are, from stamp duty, to insure our goodly person, life and limb, by the journey, or by the year. The announcement they have issued, upon their having received the Royal Assent to their Act of Parliament, shows that their plan is as comprehensive as their principle is good. To us, as to the public, it "Comes forth a system, perfect in itself, and patent to the world."

And so, perhaps, after all, our always erratic, and, as we have shown, sometimes erroneous, contemporary will "eat the leek" for once, and (breathing in an opposite direction) join us in wishing success to the company.

RAILWAY TRAFFIC.—A return has just been presented to Parliament, from which it appears that the number of miles of railway open in the United Kingdom, on the 1st July, 1848, was 4433; and 5079 on the 31st December last. The total number of passengers during the half-year, ending 31st December, was 31,630,292, divided as follows:—First class, 8,743,602; second, 12,191,549; third, 7,184,032; parliamentary, 8,450,628; mixed, 60,485. The total receipts from passengers were 3,283,501l. 12s. 1½d., divided as follows:—First class, 1,003,516l. 9s. 6½d.; second, 1,360,468l. 2s. 7½d.; third, 320,822l. 18s. 0½d.; parliamentary, 597,071l. 18s. 4d.; mixed, 1882l. 8s. 7d. The receipts from goods, cattle, carriages, parcels, mails, &c., were 2,461,662l. 17s. 7½d., making the total receipts, 5,744,964l. 9s. 9d.

LIFE ASSURANCE.—A deputation, consisting of the undermentioned gentlemen, had an interview with the Chancellor of the Exchequer, on Wednesday:—Mr. Savard, of the Promoter Life-office; Mr. Higham, of the Royal Exchange; Mr. Litterdale, of the Sun; Mr. Tucker, of the Pelican; Mr. Downes, of the Law Life; Mr. J. J. Downes, of the Economic; Mr. Murphy, of the Provident Life-office; Mr. Engelback, of the Alliance; Mr. Rainbow, of the Crown; Mr. Bunyan, of the Norwich Union; Mr. McKean, of the Scottish Widows' Fund. The object of the deputation was to place in the hands of the Right Hon. the Chancellor of the Exchequer a petition to the House of Commons, complaining of the practice of certain life assurance societies, enrolled under the Friendly Societies' Acts, and praying that a law might be passed to place the competition between all assurance companies on a fair and equal basis, in respect to all life assurances above 2000l.

ROYAL ASSENT TO RAILWAY BILLS.—During the present session of Parliament the Royal Assent has been given to nine railway bills, by which existing companies are authorised to raise in the aggregate additional capital to the extent of 1,546,500l., and to borrow 672,165l.—total, 2,218,665l. The greater part of this money is required for the purposes of completing works already sanctioned. The sum authorised to be raised for the construction of new works does not exceed 110,000l.

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—This BRIDGE, BUILT wholly of IRON, will be ERECTED by the PATENTEE on the following terms:—
A BRIDGE, of 150 span, for a double track railway, broad gauge—Price £2000.
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On and from Monday, the 2d of July, this company will grant insurance tickets, at their offices, No. 4, Old Broad-street, City, to persons desirous of securing the payment of a sum of money, in the event of loss of life or personal injury happening to them while travelling by railway, on the following terms:—
First-class passengers assured in the sum of £1000 for three months, at a premium of 10s.; for six months, at a premium of 16s.; for twelve months, at a premium of £1.
Second-class passengers assured in the sum of £500 for three months, at a premium of 7s.; six months, at 11s.; twelve months, at 14s.

This class of insurance is intended for the especial benefit of commercial travellers, and that of persons having periodical railway tickets on any of the railways in the kingdom. Arrangements are in course of completion with the various railway companies for the issue of insurance tickets for a specified journey at the various stations of all railways throughout the kingdom, on the following terms:—
First-class Passenger, Three-pence, to insure £1000 } For the journey
Second ditto, Two-pence, ditto 500 } irrespective of
Third ditto, One penny, ditto 200 } distance.

The single journey ticket will cover the risk to the assured of travelling the distance for which the railway ticket is issued, except in the case of a return ticket, when the party must effect a second assurance.

All the premiums charged include the stamp-duty, which will be payable to the Government by the company.
The sums for which persons are assured will be paid to their representatives in the event of an accident terminating fatally; and when it results in personal injuries only, liberal and immediate compensation will be made, and in such cases the company will send one of its officers to the spot, provided with money to make advances to any of the assured who may require such assistance, and having authority to make such other general arrangements for the comfort of the sufferers as may be deemed expedient, until the proper amount of compensation in each particular case can be determined.

Printed forms of applications, for periodical tickets, may be had at the offices of the company.
ALEXANDER BEATTIE, Secretary.

SOUTH AUSTRALIAN COMPANY.—At the Thirteenth Annual General Meeting of the proprietors, held at their offices, No. 4, New Broad-street, on Wednesday, June 27, 1849.

The following resolutions were unanimously adopted:—
Moved by James Ruddle Todd, Esq., seconded by James Brewster, Esq.,

1. That the report of the company's operations as now read be adopted for the thirteenth annual report of the South Australian Company, and printed and circulated under the direction of the board; also that the accounts of the company's affairs to the 30th April last (as now submitted) be approved.

Moved by Thomas Williams, Esq., seconded by Rev. Thomas Timson,
2. That the recommendation of the directors to declare the current year a dividend at the rate of 4 per cent. per annum, being in the proportion of £1 per share on the paid up shares (free of income-tax), be adopted, and that they be authorised to pay the same half-yearly as heretofore.

Moved by George Miller, Esq., seconded by William Hardcastle, Esq.,
3. That the report of the directors, together with a balance-sheet of the company's affairs to be read at the annual general meeting of the shareholders, be in future printed, and placed at their disposal before the commencement of business on the day of meeting.

Moved by Edward Divett, Esq., M.P., seconded by Richard Bowdell Boddome, Esq.,
4. That Richard Foster, Esq., and John Fussell, Esq., who retire by rotation, be re-elected directors; and that John Buzley White, Esq., and William Richards, Esq., be re-elected auditors.

Moved by Hewitt Cotterel Watson, Esq., seconded by Rev. Thomas Timson,
5. That a list of the proprietors, with their post addresses, be printed, and a copy be given to each proprietor on application.

Moved by Mr. Baylie Cullerud, seconded by William Hardcastle, Esq.,
6. That the most cordial thanks of the meeting be given to the chairman and directors for their very great zeal and attention in conducting the affairs of the company.

Moved by Charles Roberts, Esq., seconded by Robert Oakes, Esq., and supported by the Chairman,
7. That the best thanks of the meeting be given to Mr. McLaren and Mr. Giles for their continued valuable services in the company's affairs.

London, June 27, 1849. DAVID McLAREN, Manager.

SOUTH AUSTRALIAN BANKING COMPANY.
Incorporated by Royal Charter.—At the Eighth Annual General Meeting, held at their offices, No. 54, Old Broad-street, on Tuesday, June 26, 1849, the following resolutions were adopted:—

Moved by E. Divett, Esq., M.P.; seconded by J. Fussell, Esq.,
1. That the report of the company's operations, as now read, be adopted for the eighth annual report of the South Australian Banking Company, and printed and circulated under the direction of the court of directors; also, that the accounts of the company's affairs to the 28th of May last, as now submitted be approved.

Moved by J. R. Todd, Esq.; seconded by C. Roberts, Esq.,
2. That the recommendation of the directors, to declare for the ensuing year a dividend of 25 per cent. per annum (clear of income-tax) on the paid-up capital, be adopted, and that they be authorised to pay the same half-yearly as before.

Moved by R. Foster, Esq.; seconded by G. Long, Esq.,
3. That James Henry Leckie, and John Remington Mills, Esq., be re-elected as directors; and John Brown, and Felix Ludbrooke, Esq., as auditors of the company.

Moved by G. Palmer, jun., Esq.; seconded by the Rev. T. Timson,
4. That the thanks of the proprietors are hereby given to the chairman and directors for their great exertions for the benefit of the company.

Moved by E. Divett, Esq., M.P.; seconded by G. Miller, Esq.,
5. That the best thanks of this meeting be given to the local directors at Adelaide, and to the manager, E. Stephens, Esq., also to the London manager, E. J. Wheeler, Esq., for their zealous and unremitting attention to the company's interests.

London, June 26, 1849. EDMUND J. WHEELER, Manager.

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Chester.—Nixon, perfumer.
Cardiff.—Williams and Hughes, book-sellers.
Cardigan.—F. Pigot, 29, Marlborough-street.
Dublin.—J. Parkes & Co., Chancery-lane.
Douglas (Isle of Man).—R. G. Kelly.
Edinburgh.—Arch. Young, 17, Princes-st.
Aberdeen.—Arch. Macdonald, perfumer to the Queen, 67, George-street.
William Hardhill.
Liverpool.—Everard Eames, St. George's-crescent, &c.
Loughborough.—B. Baldwin, jeweller, Market-place.
London.—E. J. Partridge, Public Library.

Manchester.—J. & W. Wood, surgical instrument makers, 74, King-st. 1.
J. Hull, hardware dealer, 48 and 50, Swan-street.
Merthyr Tydfil.—W. White, stationer.
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Quantity of air passed through a Mine almost unlimited, to the extent of 200,000 cubic feet per minute. If necessary—depending on size of apparatus.
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The ventilator has been erected at the Eaglebush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Penrose and Evans, Neath.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of MR. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS.

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. THE PATENT METAL IS PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—
1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-roads, horse-shoes, and for other ordinary uses of the blacksmith.

THE PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

PATENT TOUGHENED CAST-IRON.—Messrs. GARDEN and MACANDREW beg to call the attention of Architects, Builders, Engineers, Ironfounders, &c., to the ABOVE DESCRIPTION OF IRON (Mr. Morris Stirling's Patent), which, after numerous trials, experimental and practical, is found greatly to exceed all other cast-iron in tensile and transverse strength, as well as in resistance to crushing force. Several of the most extensive ironmasters have been licensed, and from them, or their brokers, the patent iron can be procured.

Messrs. GARDEN & MACANDREW have always a STOCK of this IRON in PIGS, and are ready to EXECUTE ORDERS to ANY EXTENT, on the shortest notice.

27, Queen-street, Cheapside, April 25, 1849.

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For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and 87, High-street, Southampton.

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The adoption of its use effects a saving of 25 per cent. on the quantity required for lubrication over any other oil; and its properties are such as to greatly preserve the bearings of machinery in general.

W. BROTHERTON & CO., PATENT OIL FACTORY, HUNGERFORD WHARF, CHARING-CROSS, LONDON.

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N.B.—The trade supplied.—Where also may be had the proper varnish and size, with directions for their use.—Also,

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A superior Black Ink, of the common character, but more fluid.
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HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London.

IMPORTANT TO MINE OWNERS, &c.

GUTTA PERCHA COMPANY—PATENTEES,
CITY-ROAD, LONDON.

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Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES FROM ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Whistlaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the loss of life in mines.

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DAMP AND GASEOUS EXHALATIONS.
SANITARY MEASURES.

ALL MEMBERS of BOARDS of HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of refuse, tending to produce a miasmatic state of atmosphere.

In situations so effected, the impervious quality of the ASPHALTE of SEYSEL renders it the most perfect PAYMENT of COVERING, that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:—

"In 1839, I superintended the construction of a house of three stories on the Lac d'Engelheim. The foundation of the building is constantly in water, about 15 inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of SEYSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 3½ in. above the external surface of the wall, and yet it is perfectly dry and sound."

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This method has been adopted at the new Houses of Parliament.
Seyssel Asphalt Company, Stangate, London. I. FAIRBELL, Secretary.

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